Ref. No. 3546

ONKYO® SERVICE MANUAL

Personal Theater System

U.S.A. Model

PTS-707

PTS-505

PTS-303

Asian Model

PTS-707

PTS-507

PTS-307

ONKYO
AUDIO COMPONENTS

SPEAKER SYSTEM SPECIFICATIONS

MPS-707

Speakers
Front:

Type:	3-Way, Bass reflex, Magnetism sealed type
Speakers	Woofer; 16cm cone type Mod-range; 7cm cone type Tweeter; 2cm ceramic type
Impedance:	8 Ω
Dimensions (W×D×H)	195×370×295 mm (7-11/16×14-9/16×11-5/8in.)

Center:

Type:	1-Way, Full range, Magnetism sealed type
Speakers	10cm cone type
Impedance:	8 Ω
Dimensions (W×D×H)	270×115×147 mm (10-5/8×4-9/16×5-13/16in.)

Surround

Type:	1-Way, Full range type
Speakers	10cm cone type
Impedance:	16 Ω
Dimensions (W×D×H)	174×115×133 mm (6-7/8×4-9/16×5-1/4in.)

MPS-307

Speakers

Type:	2-Way, Bass reflex, Magnetism sealed type
Speakers	Woofer; 13cm cone type Tweeter; 5 cm cone type
Impedance:	8 Ω
Dimensions (W×D×H)	185×370×295 mm (7-5/16×14-9/16×11-5/8in.)

MPS-507

Speakers
Front:

Type:	2-Way, Bass reflex, Magnetism sealed type
Speakers	Woofer; 13cm cone type Tweeter; 5 cm cone type
Impedance:	8 Ω
Dimensions (W×D×H)	185×370×295 mm (7-5/16×14-9/16×11-5/8in.)

Center:

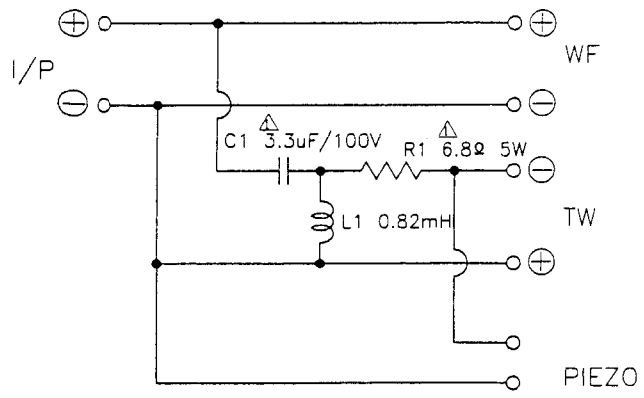
Type:	1-Way, Full range, Magnetism sealed type
Speakers	10cm cone type
Impedance:	8 Ω
Dimensions (W×D×H)	270×115×147 mm (10-5/8×4-9/16×5-13/16in.)

Surround

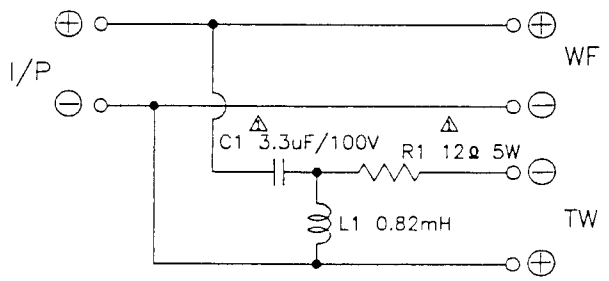
Type:	1-Way, Full range type
Speakers	10cm cone type
Impedance:	16 Ω
Dimensions (W×D×H)	174×115×133 mm (6-7/8×4-9/16×5-1/4in.)

CONNECTION DIAGRAM

PS-707



PS-505



SPEAKER SYSTEM-PARTS LIST

MPS-707

PS-707 x 2 + PS-C07 + PS-R07 x 2

PART NO.	DESCRIPTION
(PS-707 Front Speaker)	
401-PS-707-A	Baffle plate with super tweeter
401-1PS-707	Spacer for woofer
505-PS-707	Cabinet with Felt and Terminal
430-PS-707	Gasket for woofer
903-PS-707	Cloth frame with "ONKYO" logo
190-PS-707	Network Ass'y
300-B2403500	M4x35, Wood screw for woofer
300-B2401600	M4x16,Wood screw for tweeter
300-B2401200	M4x12,Wood screw for network
W1695B	Woofer
TW751A	Tweeter
(PS-C07 Center Speaker)	
903-PS-C07	Cloth Frame with "ONKYO" logo
505-PS-C07	Cabinet with Side Panel and Terminal
429-PS-C07	Gasket for Fullrange
190-PS-C07	Cord Ass'y
300-B2351200	M3.5x12, Wood screw
436-PS-C07	Acoustic Sponge 200x80x25
PD10392A	Full-range Speaker
(PS-R07 Rear Speaker)	
903-PS-R07	Cloth Frame with "ONKYO" logo
505-PS-R07	Cabinet with Side Panel and Terminal
429-PS-C07	Gasket for Fullrange
190-PS-C07	Cord Ass'y
350-S-X3	Hanger Plate
300-B2351200	M3.5x12,Wood screw for speaker
436-PS-C07	Acoustic Sponge 200x80x25
PD10393A	Full-range Speaker

MPS-307

PS-505 x 2

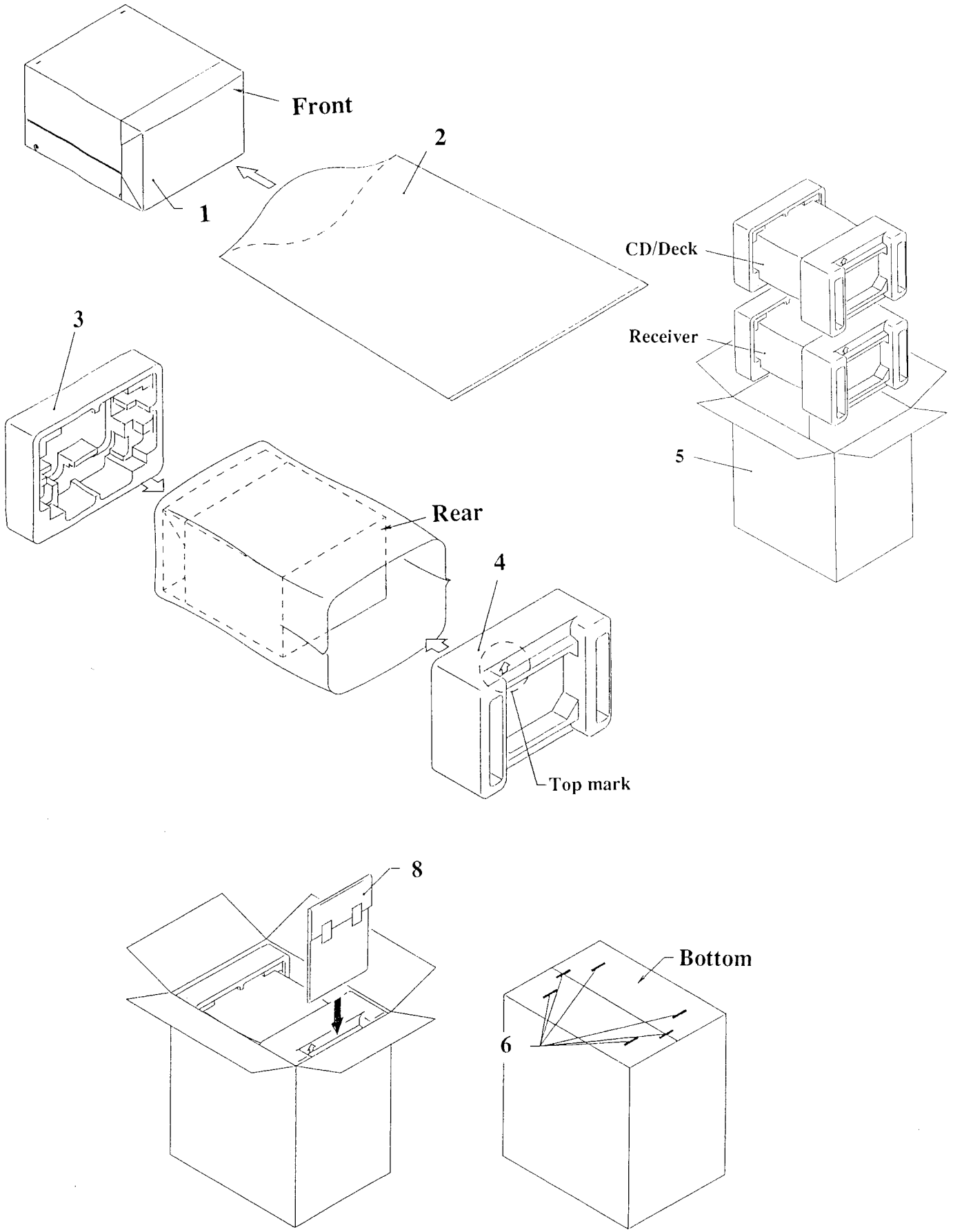
PART NO.	DESCRIPTION
(PS-505 Front Speaker)	
401-PS-505-A	Front Panel with gasket(duct)
401-1PS-505	Spacer for woofer
505-PS-505	Cabinet with Felt and Terminal
430-PS-505	Gasket for woofer
903-PS-505	Cloth frame with "ONKYO" logo
190-PS-505	Network Ass'y with Rubber Spacer
300-B2403500	M4x35, Wood screw for woofer
300-B2401600	M4x16,Wood screw for tweeter
300-B2401200	M4x12,Wood screw for network
W1321A	Woofer
TW751A	Tweeter

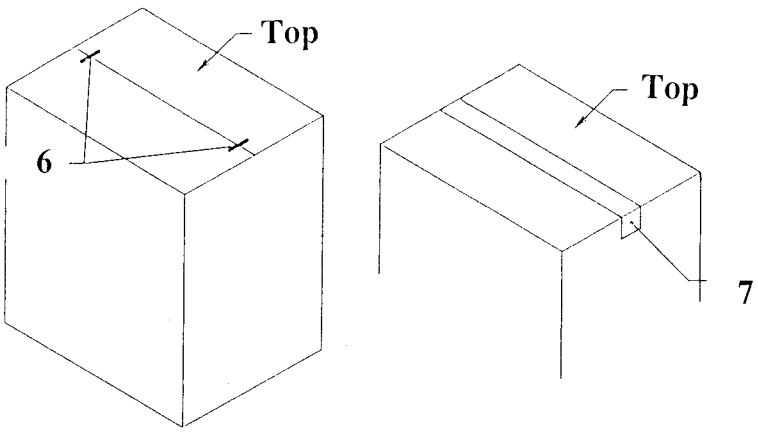
MPS-507

PS-505 x 2 + PS-C07 + PS-R07 x 2

PART NO.	DESCRIPTION
(PS-505 Front Speaker)	
401-PS-505-A	Front Panel with gasket(duct)
401-1PS-505	Spacer for woofer
505-PS-505	Cabinet with Felt and Terminal
430-PS-505	Gasket for woofer
903-PS-505	Cloth frame with "ONKYO" logo
190-PS-505	Network Ass'y with Rubber Spacer
300-B2403500	M4x35, Wood screw for woofer
300-B2401600	M4x16,Wood screw for tweeter
300-B2401200	M4x12,Wood screw for network
W1321A	Woofer
TW751A	Tweeter
(PS-C07 Center Speaker)	
903-PS-C07	Cloth Frame with "ONKYO" logo
505-PS-C07	Cabinet with Side Panel and Terminal
429-PS-C07	Gasket for Fullrange
190-PS-C07	Cord Ass'y
300-B2351200	M3.5x12, Wood screw
436-PS-C07	Acoustic Sponge 200x80x25
PD10392A	Full-range Speaker
(PS-R07 Rear Speaker)	
903-PS-R07	Cloth Frame with "ONKYO" logo
505-PS-R07	Cabinet with Side Panel and Terminal
429-PS-C07	Gasket for Fullrange
190-PS-C07	Cord Ass'y
350-S-X3	Hanger Plate
300-B2351200	M3.5x12,Wood screw for speaker
436-PS-C07	Acoustic Sponge 200x80x25
PD10393A	Full-range Speaker

CENTER SYSTEM-PACKING VIEW





PARTS LIST

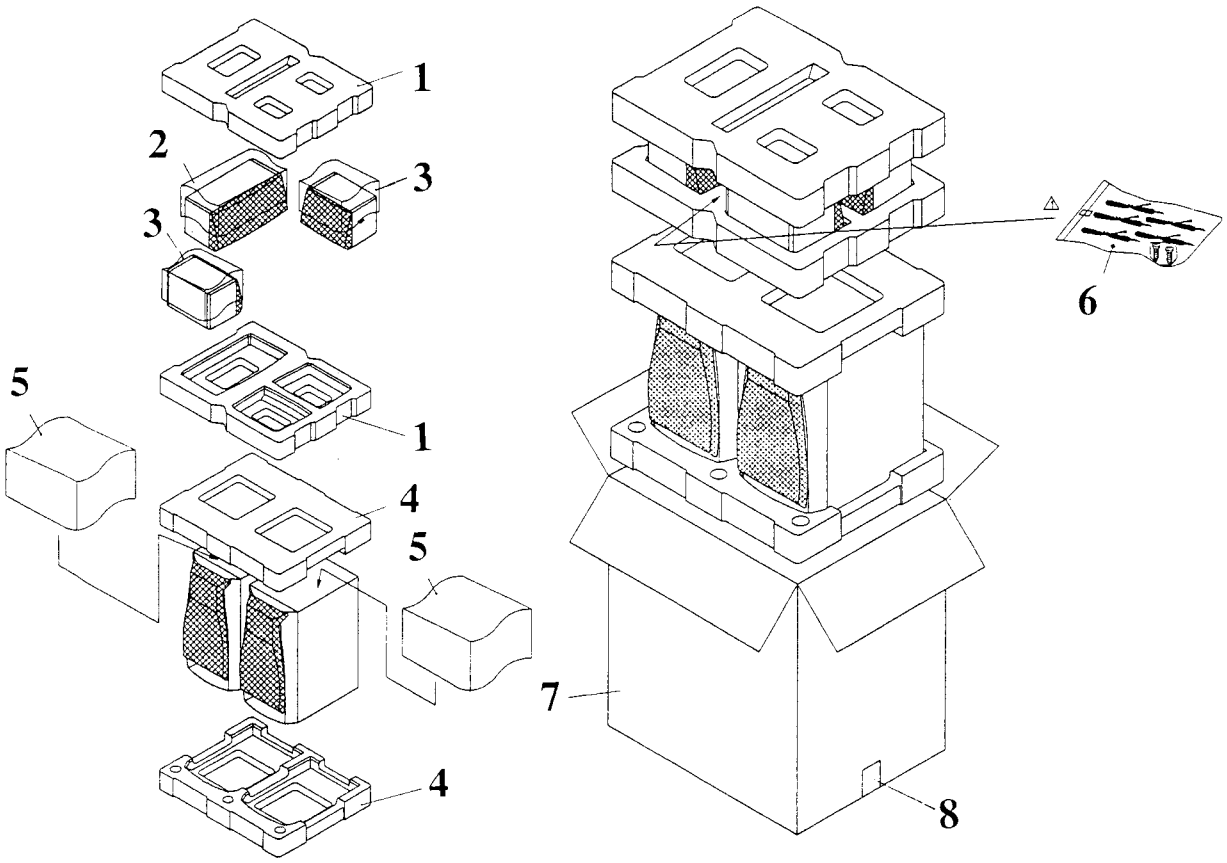
REF. NO.	PART NO.	DESCRIPTION
1	45-0111-1	Mirror mat
2	47-0026-1	Poly bag
3	45-0105-1	Pad F
4	45-0106-1	Pad R
5	See the below table	
6	282301	Staple
7	29110071	P.P tape

Accessary bag ass'y-parts list

PTS-303	PTS-505	PTS-707	Model
UDN	UDN	UDN	
AN-0042-1	AN-0042-1	AN-0042-1	FM Antenna
Z-BREPTS707-1	Z-BREPTS707-1	Z-BREPTS707-1	Remote control
3010054	3010054	3010054	Two batteries
AN-0041-1	AN-0041-1	AN-0041-1	AM loop antenna
44-0182-1	44-0183-1	44-0149-1	Instruction manual
44-0151-1	44-0150-1	44-0168-1	Instruction manual U3
29365019B	29365019B	29365019B	Warranty card
29358002K	29358002K	29358002K	S. S. list
40-0219-4	40-0219-4	40-0219-4	Poly bag
41-0114-1	41-0113-1	41-0112-1	**Carton box(No.5)**
PTS-307	PTS-507	PTS-707	Model
UM	UM	UM	
AN-0042-1	AN-0042-1	AN-0042-1	FM Antenna
Z-BREPTS707-1	Z-BREPTS707-1	Z-BREPTS707-1	Remote control
3010054	3010054	3010054	Two batteries
AN-0041-1	AN-0041-1	AN-0041-1	AM loop antenna
23-A009-2	23-A009-2	23-A009-2	Conversion plug
44-0182-1	44-0183-1	44-0149-1	Instruction manual
44-0151-1	44-0150-1	44-0168-1	Instruction manual U3
44-0170-1	44-0169-1	44-0181-1	Instruction manual T
40-0219-4	40-0219-4	40-0219-4	Poly bag
41-0135-1	41-0134-1	41-0133-1	**Carton box(No.5)**

PACKING VIEW

MPS-707

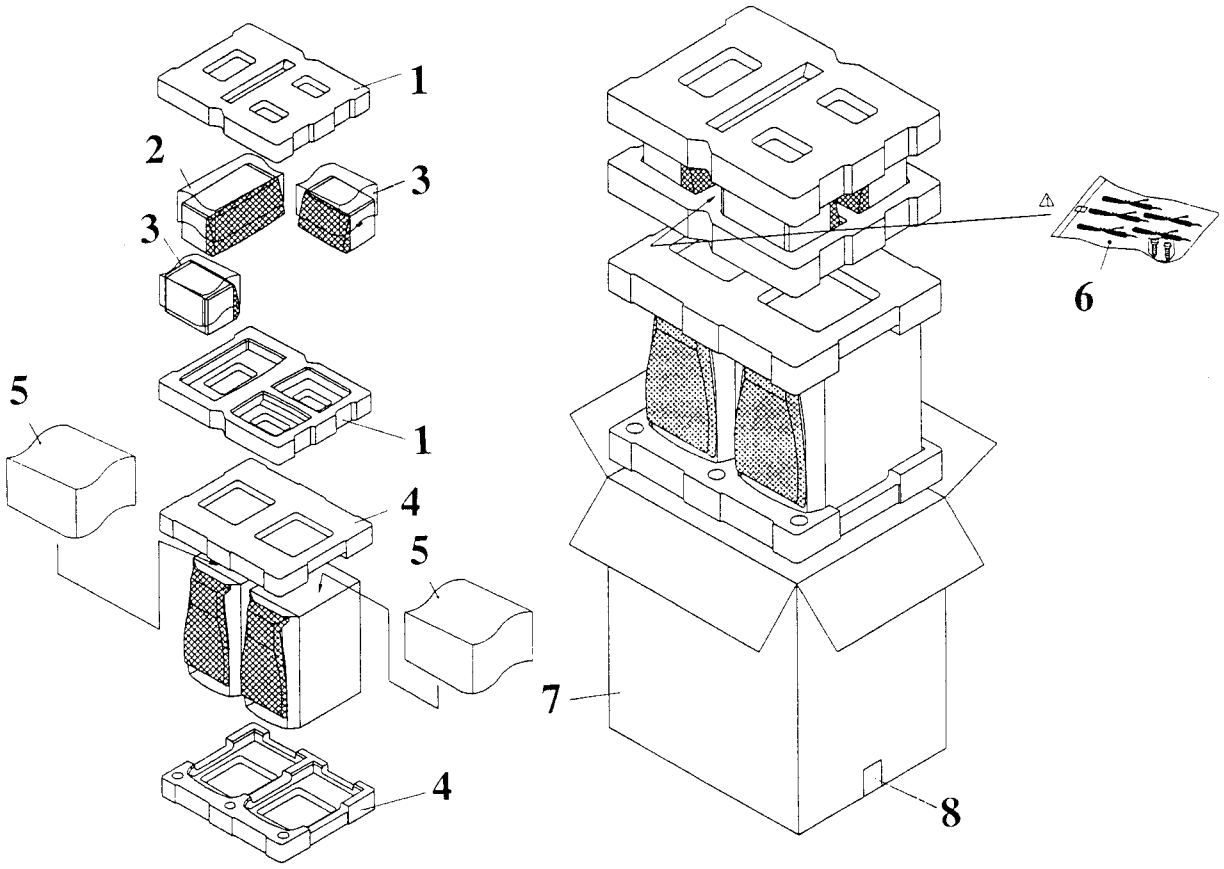


PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	404-PSCR07	Pad (Top and Bottom)
2	402-PS-C07	450x280, Poly bag
3	402-PS-R07	360x280,Poly bag
4	404-PS-707	Pad (Top and Bottom)
5	402-PS-707	710x520,Poly bag
6	617-MPS-707	Speaker cord Ass'y
6	300-022095	Wood screw
7	600-MPS-707	Carton box
8	29110071	PP tape

PACKING VIEW

MPS-507

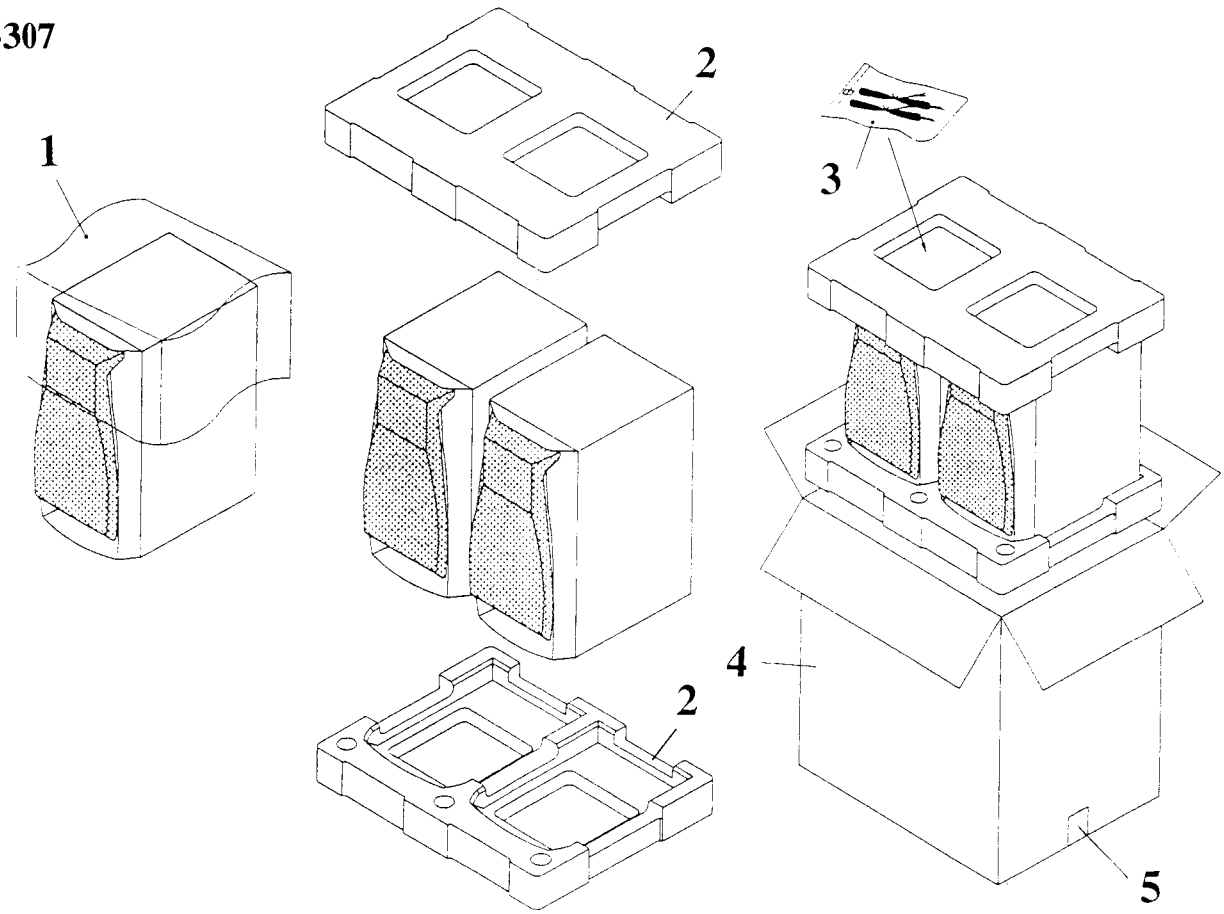


PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	404-PSCR07	Pad (Top and Bottom)
2	402-PS-C07	450x280, Poly bag
3	402-PS-R07	360x280,Poly bag
4	404-PS-505	Pad (Top and Bottom)
5	402-PS-707	710x520,Poly bag
6	617-MPS-707	Speaker cord Ass'y
6	300-022095	Wood screw
7	600-MPS-505	Carton box
8	29110071	PP tape

PACKING VIEW

MPS-307



PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	402-PS-707	710x520,Poly bag
2	404-PS-505	Pad (Top and Bottom)
3	617-SS-D555	Speaker cord Ass'y
4	600-MPS-303	Carton box
5	29110071	PP tape

SYSTEM COMPONENTS

	Model	Receiver	CD/Tape	Front Speaker	Center Speaker	Rear Speaker
PTS-303	UDN	RY-303	KCY-707	PS-505		
PTS-505	UDN	RY-505	KCY-707	PS-505	PS-C07	PS-S07
PTS-707	UDN	RY-707	KCY-707	PS-707	PS-C07	PS-S07
PTS-307	UM	RY-307	KCY-707	PS-505		
PTS-507	UM	RY-507	KCY-707	PS-505	PS-C07	PS-S07
PTS-707	UM	RY-707	KCY-707	PS-707	PS-C07	PS-S07

PN. 0M3546 NS608 Printed in Japan

Ref. No. 3546-

ONKYO SERVICE MANUAL

CASSETTE TAPE DECK
COMPACT DISC PLAYER
MODEL KCY-707

UD	120V AC, 60Hz
UM	220/230-240V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO®
AUDIO COMPONENTS

SPECIFICATIONS

CD Player Section	
CD changer type:	10 disc bank system
Signal readout system:	Optical non-contact
Reading rotation:	About 500-200 r.p.m. (constant linear velocity)
Linear velocity:	1.2-1.4 m/s
Error correction system:	Cross Interleave Reed Solomon code
D/A converter:	1 Bit D/A converter
Sampling frenquency:	176.4 KHz (four-times oversampling)
Number of channels:	2 (stereo)
Cassette Deck Section	
Deck mechanism type;	Double auto reverse
Track format:	4-track, 2-channels
Erasing system:	AC erase
Tape speed:	4.8 cm/sec 9.6 cm/sec (high-speed dubbing)
Wow and Flutter:	0.12 % (WRMS)
Motors:	DC servo motor x 2
Heads:	REC/PB: 1 PB: 1 ERASE: 1
General	
Power supply rating:	U.S.A. model: AC 120V, 60Hz Asian model: AC 220/230-240V,50/60Hz
Dimensions (W x H x D):	270 x 185 x 322mm 10-5/8" x 7-5/16" x12-11/16"

Specifications and external appearance are subject to change without notice because of product improvements.

TABLE OF CONTENS

Specification	1
Caution on replacement of optical pickup	2
Protenction of eyes from laser beam during servicing	3
Laser warning labels	3
Adjustment procedures	4
Microprocessor terminal description	6
IC block diagrams	7
Chassis-exploded view	13
Parts list (chassis)	14
Cassette tape dack mechanism-exploded view	15
Parts list (deck mechanism)	17
CD mechanism-exploded view	18
Parts list (CD mechanism)	19
Printed circuit board parts list	20
Block diagram	21
Printed circuit board view from bottom side	23
Schematic diagram	27

CAUTION ON REPLACEMENT OF OPTIONAL PICKUP

The laser diode in the optical pickup block is so sensitive to static electricity,surge current and etc, that the components are liable to be broken down or its reliability remarkably deteriorated.

During repair,carefulley take the following precautions. (The following precautions are included in the service parts.)

PRECAUTIONS

1.Ground for the work-desk.
Place a conductive sheet such as a sheet of copper (with inpedance lower than 10MΩ) on the work-desk and place the set on the conductive sheet so that the chassis.

2.Grounding for the test equipment and tools.
Test equipments and toolings should be grounded in order that their ground level is the same the ground of the power source.

3.Grounding for the human body.
Be sure to put on a wrist-strap for grounding whose other end is grounded.
Be particularly careful when the workers wear synthetic fiber clothes, or air is dry.

4.Select a soldering iron that permits no leakage and have the tip of the iron well-grounded.

5.Do not check the laser diode terminals with the probe of a circuit tester or oscilloscope.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMMISION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

Laser Diode Properties

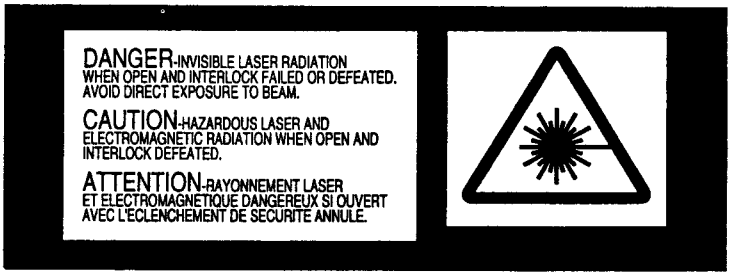
- Material: GaAS/GaAlAs
- Wavelength: 780nm
- Emission Duration: continuous
- Laser output: max. 0.5mW*

*This output is the value measured at a distance about 1.8mm from the objective lens surface on the Optical Pick-up Block.

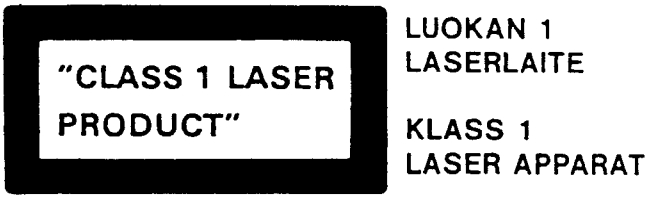
LASER WARNING LABELS

The label shown below are affixed.

1. Warning lable


DANGER-INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION-HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED.
ATTENTION-RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLENCHEMENT DE SECURITE ANNULE.

2. Class 1 label



ADVARSEL

Denna maekning er anbragt på apparatets højre side og indikerer, at apparatet arbejder med laserstraler af klasse 1, hvilket betyder, at der anvendes laserstråler af svageste klasse, og at man ikke på apparatets yderside kan blive udsat for utilladelig kraftig stråling.

APPARATET BØ/R KUN ÅBNES AF FAGFOLK MED SE RLIGT KENDSKAB TIL APPARATER MED LASERSTRÅLERI

Indvendigt i apparatet er anbragt den her gengivne advarselsmérkning, som advarer imod at foretage sådnne indgreb i apparatet, at man kan komme til at udsaette sig for laserstråling.

VAROITUS! LAITTEEN KAYTTAMINEN MUULLA KUIN TASSA KAYTTOOHJEESSA MAINTULLA TAVALLA SAATTAA ALTISTAA KAYTTAJAN TURVALLISUUSLUOKAN 1 YLITTAVALLE NAKYMATTOMALLE LASERSATEILYLLE

KCY-707

ADJUSTMENT PROCEDURES FOR CASSETTE TAPE DECK

PRECAUTION

1. Before adjustment, clean the following parts with an alchol moistend swab.
   *record/playback head *erase head
   *pinch roller *capstan

2. Do not use magnetized screwdriver for adjustment.

3. Demagnetized record/plaiback head with a liead demagnetizer.

TEST EQUIPMENT / TOOL REQUIRED

Audio osccilator
Digiyal frequency counter
Oscilloscope
Attenuater
AC voltmeter
Non-magnetic screwdriver
Test tapes
TCC-153 : 10kHz, -10dB
MTT-111N : 3kHz, -10dB
MTT-150 : Dolby level calibration 400Hz, tone 200nWb/m

	Item	Connection of instrument	Line input	Test tape	Mode	Output indicator	Adjustment point	Adjust	Remarks
1	Tape speed	Frequency counter to TP1,2 output terminal		MTT-111N	PB	Frequency counter	Nomal Speed VR809,811	3,000 to 3030Hz	
							High Speed VR810,812	6,000 to 6060Hz	
2	Head azimuth	AC voltmeter and oscilloscope to TP1,2 output terminal		TCC-153	PB	AC voltmeter	Head azimuth screw	Maximum level & same phase at channels L and R	Fig.1
3	Plaback level	AC voltmeter to terminals TP1 (L) TP2 (R)		MTT-150	PB	AC voltmeter	A DECK VR803 (L ch) VR804 (R ch) B DECK VR806 (L ch) VR805 (R ch)	548mV (-3dBm)	
4	OSC Block	Frequency counter to erase head lead loose coupling		METAL TAPE	REC	Frequency counter	L803	85KHz	
5	Bias current	AC voltmeter to TP1,2 output terminal	1kHz & 12kHz	NORMAL TAPE	REC/ PB	AC voltmeter	VR802 (L ch) VR801 (R ch)	Same level at REC/PB	Fig.2
6	Recording level	Fig.2	1kHz	NORMAL TAPE	REC	AC voltmeter	Attenutor or AF OSC output	245mV (-10dBm)	TP3 (L ch) TP4 (R ch)
					REC/ PB	AC voltmeter	VR807 (L ch) VR808 (R ch)	Same level at REC/PB	TP1 (L ch) TP2 (R ch)

Blank tapes
NORMAL · · · UD-1 C-90
HIGH · · · · · · XL-II C-90
METAL · · · · XS C-90

PLAY torque · · · · · · 30~70g/cm
FF.REW torque · · · · 80~170g/cm
Back tension · · · · · · · 2~6g/cm

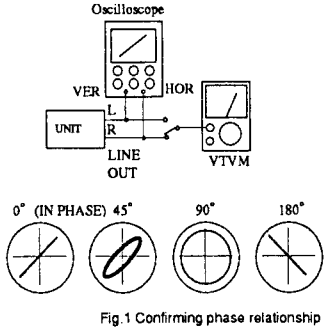


Fig.1 Confirming phase relationship

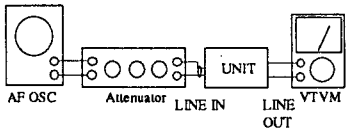


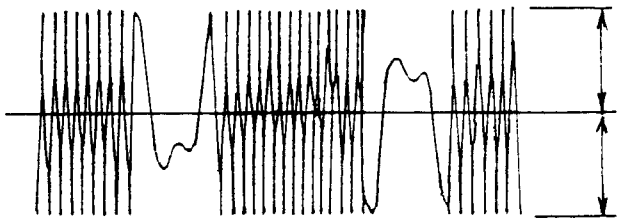
Fig. 2

ADJUSTMENT PROCEDURES FOR COMPACT DISC PLAYER

E-F BALANCE ADJUSTMENT

PROCEDURE:

1. Connect oscilloscope to the test points TE and Vref.
2. Press and hold down the SUPER DUBBING button,then press the POWER button.
3. Press FUNCTION CD button for 4 seconds or more. (CD section is TEST MODE.)
4. Put the disc (YEDS-18) in and press PLAY button.
5. Press the MEMORY button. (Tracking servo is OFF.)
6. Adjust VR701 so that the traverse waveform becomes symmetrical above and below.
7. Press the MEMORY button. (Tracking servo is ON.)
8. Press the STOP button.
9. Turn POWER switch off.

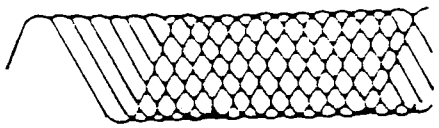


VOLT/DIV: 0.5V
TIME/DIV: 1mSEC

FOCUS BIAS ADJUSTMENT

PROCEDURE:

1. Connect osilloscope to test points RF anf GND.
2. Turn POWER switch on.
3. Put disc (YEDS-18) in and press PLAY button.
4. Adjust VR702 for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.



RF signal waveform

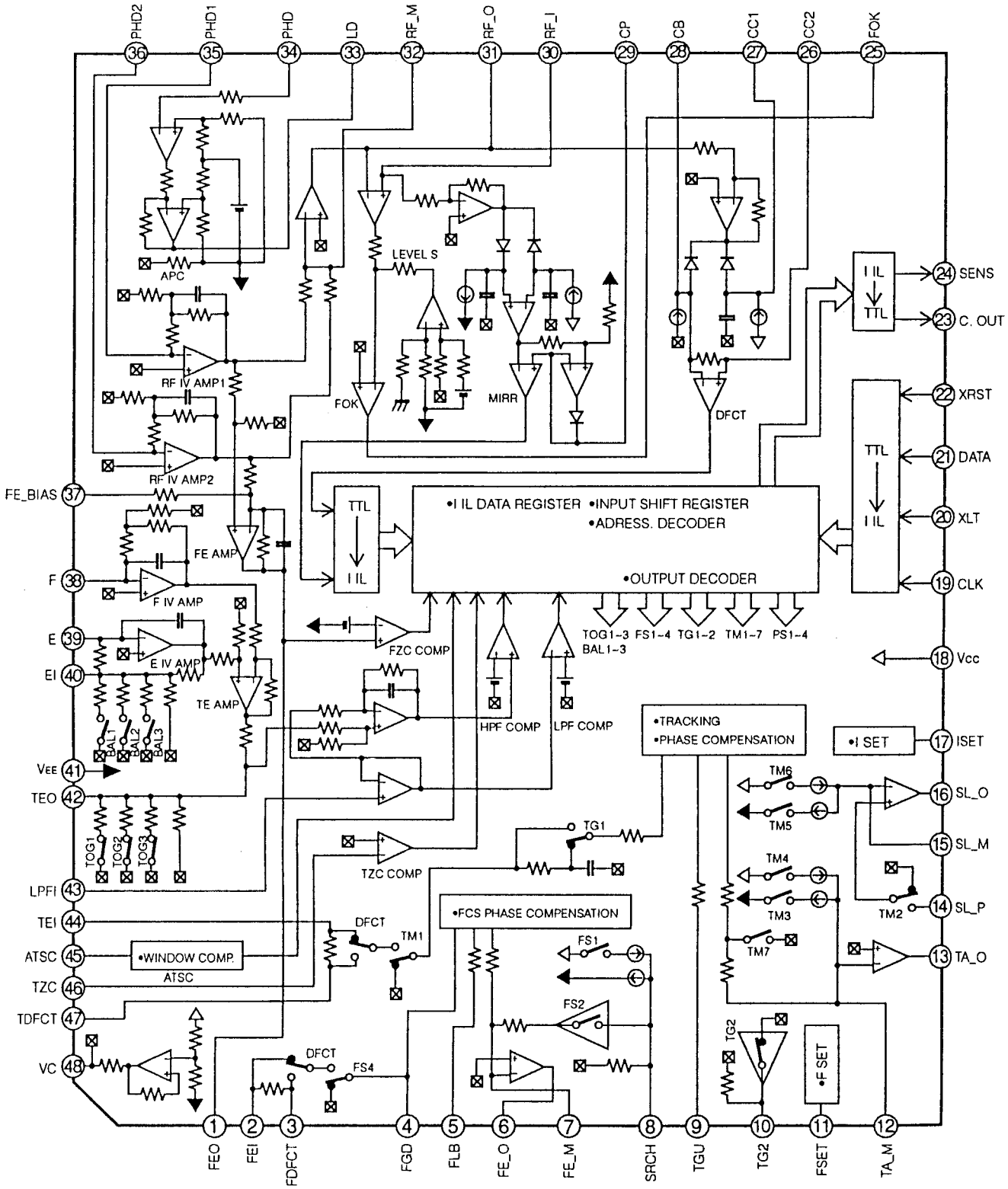
Remarks: When adjusting, set the oscilloscope AC rang and raise its vertical sensitivity so that the eye pattern can easily be seen.

MICROPROCESSOR TERMINAL DESCRIPTION

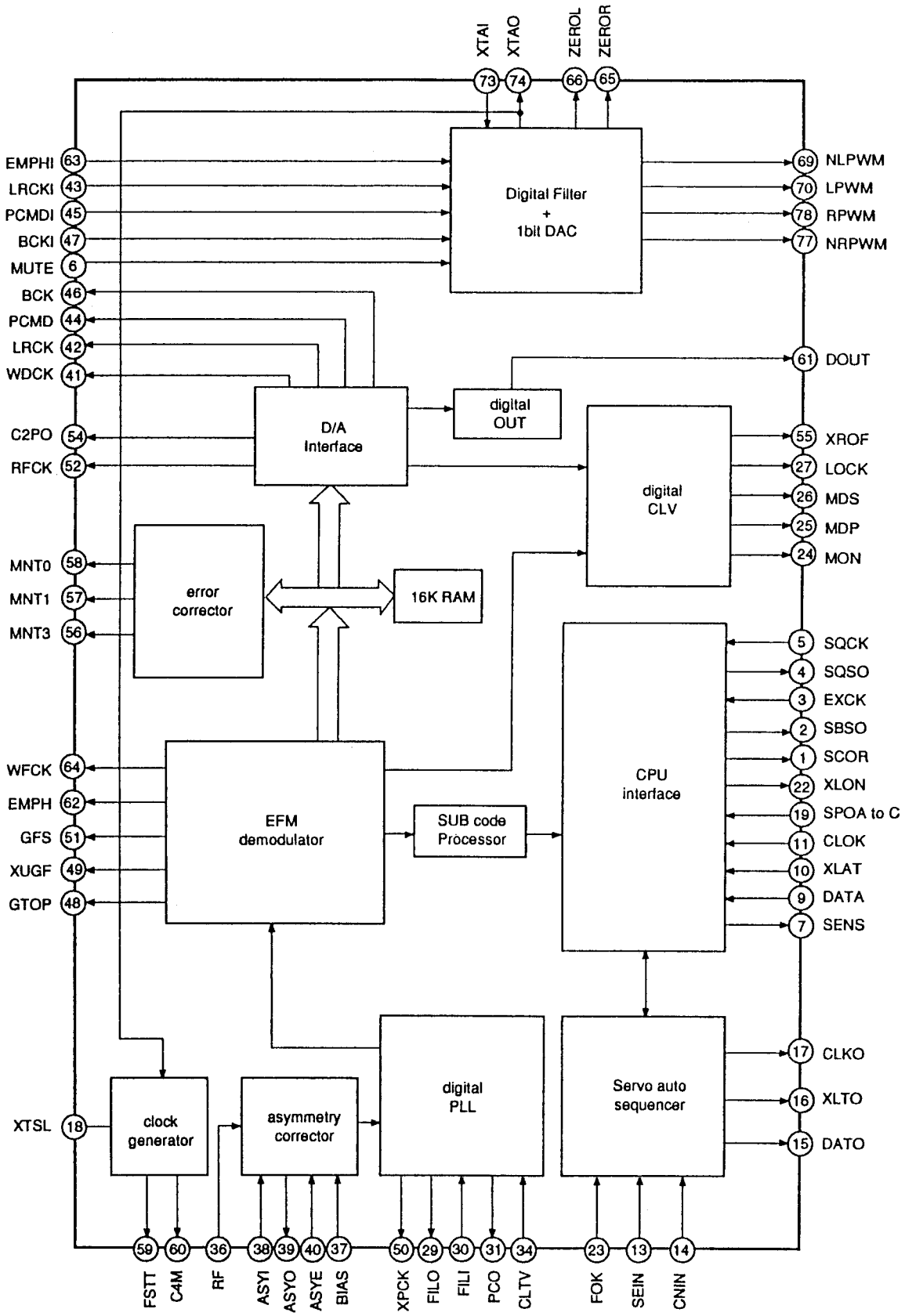
PIN NO.	SYMBOL	I/O	DESCRIPTION	PIN NO.	SYMBOL	I/O	DESCRIPTION
1	MB	O	Motor control for CD changer mechanism	41	SPXOE	O	Chip enable output to extended port IC
2	MC	O		42	NC	O	Not used
3	PRG	O	Plunger control for CD changer mechanism	43	CDCLK	O	Clock output to CD servo IC
4	CD-MUTE	O	Muting control for audio signal of CD	44	CDXLT	O	Data latch output to CD servo IC
5	CD-POWER	O	Power supply control for CD circuit	45	CDDATA	O	Data output to CD servo IC
6	AUSEL2	O	Output selector pin for CD or cassette signal	46	NC	I	Not used
7	AUSEL1	O		47	CDXRST	O	Reset input for CD section
8	TEST	I	Test mode setting input pin	48	S-CLK	I	Transfer clock signal input from main microprocessor
9	NC	O	Not used	49	S-IN	I	Transfer data signal input from main microprocessor
10	DOLBY	O	Dolby ON/OFF control	50	S-OUT	O	Transfer data signal output to main microprocessor
11	DUBBING	O	Dubbing setting signal	51	SQCLK	O	Data read clock ouput to CD DSP IC
12	L-MUTE	O	Muting control for audio signal of DECK	52	SQSI	I	Data input pin from CD DSP IC
13	HI-SPEED	O	Dubble speed dubbing control	53	NC	O	Not used
14	PB-SEL	O	Playback selector control for deck A/B	54	DISC-SEN	I	Detection input for size of CD
15	BIAS	O	Recording bias resonator control for cassette deck	55	TRV-DWN	I	Detection input for finish of down operation of traverse.
16	REC-MUTE	O	Recording muting control	56	TRV-UP	I	Detection input for finish of up operation of traverse.
17	REC/PB	O	Recording/playback control signal for deck B	57	TRY-CLS	I	Detection switch input for tray close
18	B-MTR	O	Motor speed control for deck B	58	NC	O	Not used
19	B-SOL	O	Solenoid coil control for deck B	59	NC	O	Not used
20	ERP-B	I	Prevention detection input for the side B of cassette tape	60	TRY-OPN	I	Detection switch input for tray open
21	ERP-A	I	Prevention detection input for the side A of cassette tape	61	LOAD-SEL	I	Detection sensor input for position of loading plate
22	B-PST	I	Detection input for cassette tape for deck B	62	S-RQO	O	Transfer request output to main microprocessor
23	B-END	I	Tape ending detection input for deck A	63	S-RQI	I	Transfer request input from main microprocessor
24	B-MODESW	I	Operation switch input for deck A	64	LOAD-SW	I	Position detection input for loading plate.
25	A-PST	I	Detection input for cassette tape for deck A	65	LEDS1	O	Scan signal output for operation indicator.
26	A-END	I	Tape finish detection input for deck A	66	LEDS2	O	
27	A-MODESW	I	Operation switch input for deck A	67	LEDS3	O	
28	A-SOL	O	Solenoid coil control for deck A	68	KEYIN0	I	Key matrix input
29	A-MTR	O	Motor speed control for deck A	69	KEYIN1	I	
30	RESET	I	Reset input for sub microprocessor	70	KEYIN2	I	
31	EXTAL	I	Resonator connection terminal for system clock	71	KEYIN3	I	
32	XTAL	-	Connect the 8.0MHz ceramic resonator.	72	Vdd	-	Power supply pin (+5V)
33	Vss	-	Ground pin	73	NC	-	Connect to +5v
34	NC	-	Not used	74	KEYIN4	I	Key matrix input
35	NC	I	Not used	75	KEYIN5	I	
36	AVss	-	Ground pin for A/D converter	76	KEYIN6	I	
37	AVref	-	Reference voltage pin for A/D converter	77	KEYIN7	I	
38	SPCLK	O	Clock output to extented port IC	78	CASE-POS	I	Sensor input for position of disc case
39	SPDATA	O	Data output to extended port IC	79	CASE-RST	I	Initialize position detection for disc case
40	SPLCK	O	Data latch output to extended port IC	80	MA	O	Motor control for CD changer mechanism

IC BLOCK DIAGRAMS

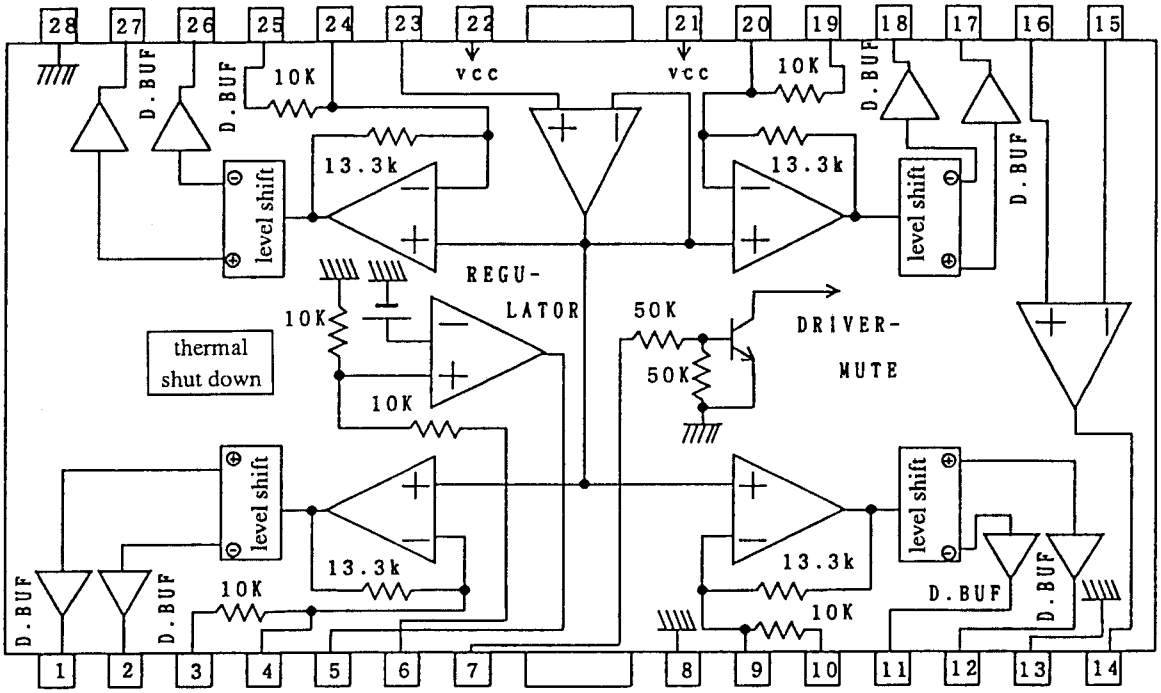
IC701 CXA1782BQ



IC702 CXD2508AQ

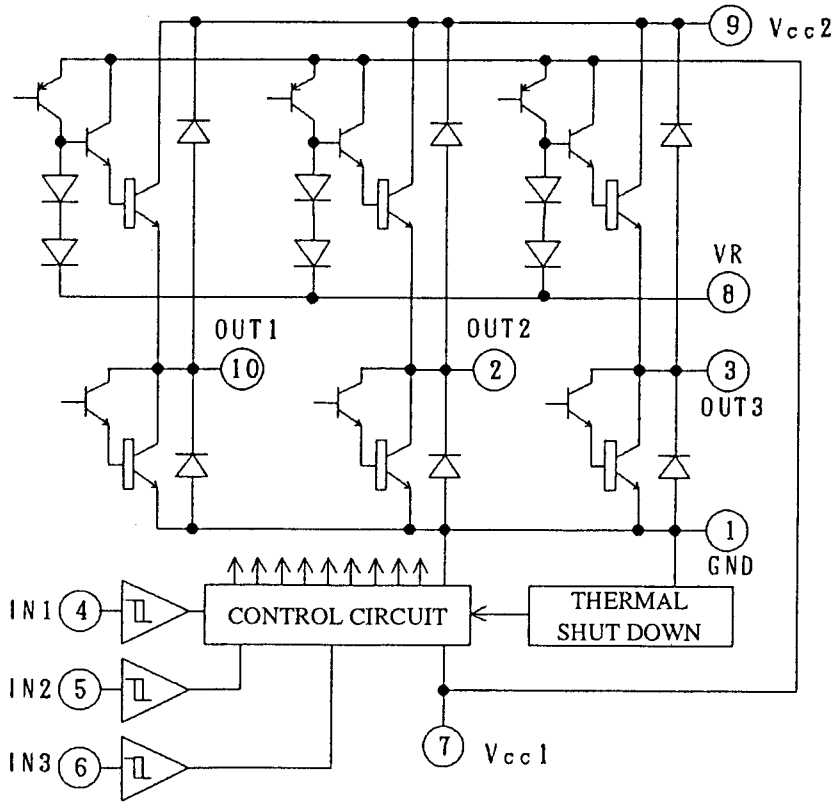


IC704 BA6398FP

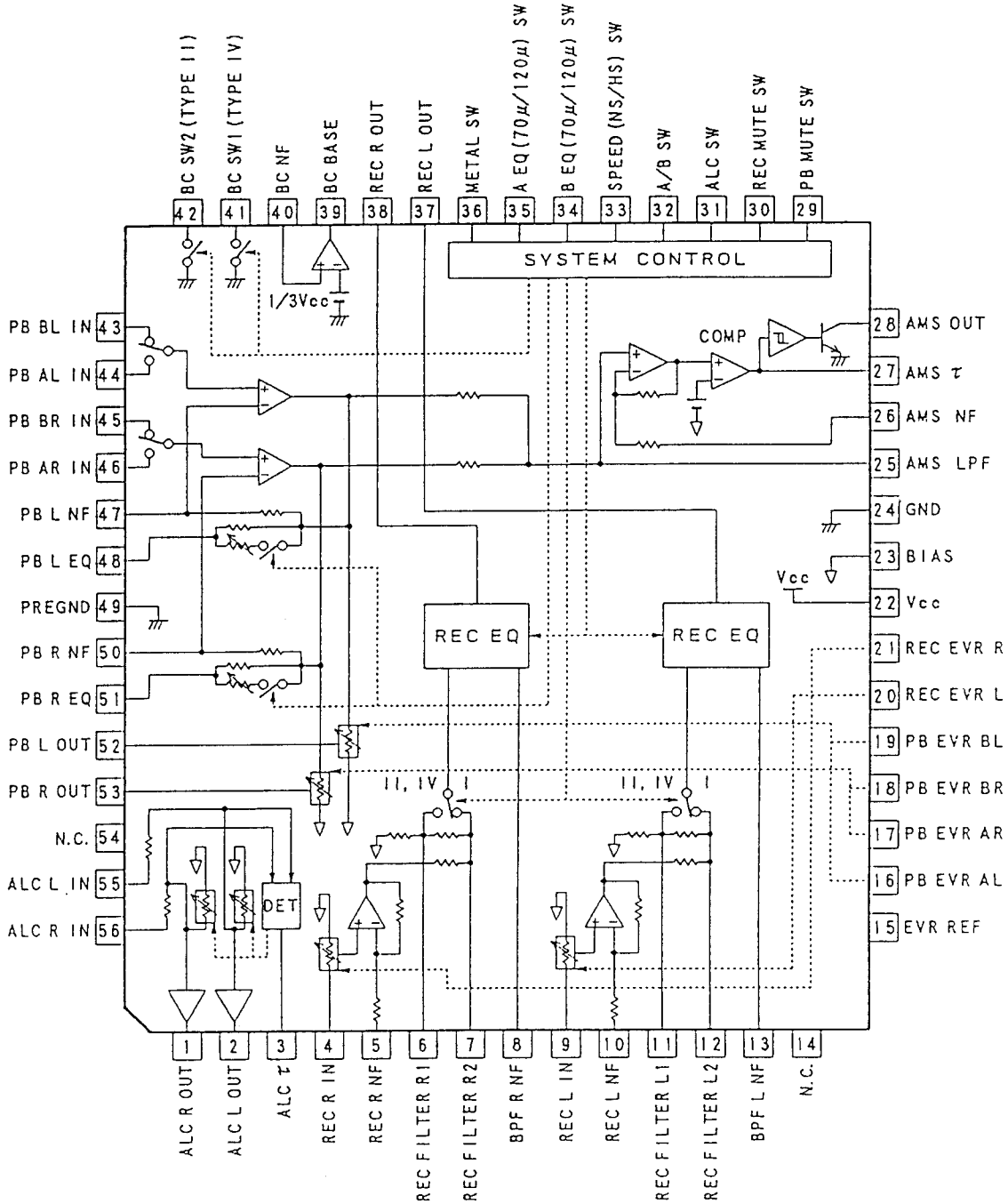


D.BUF : Drive Buffer

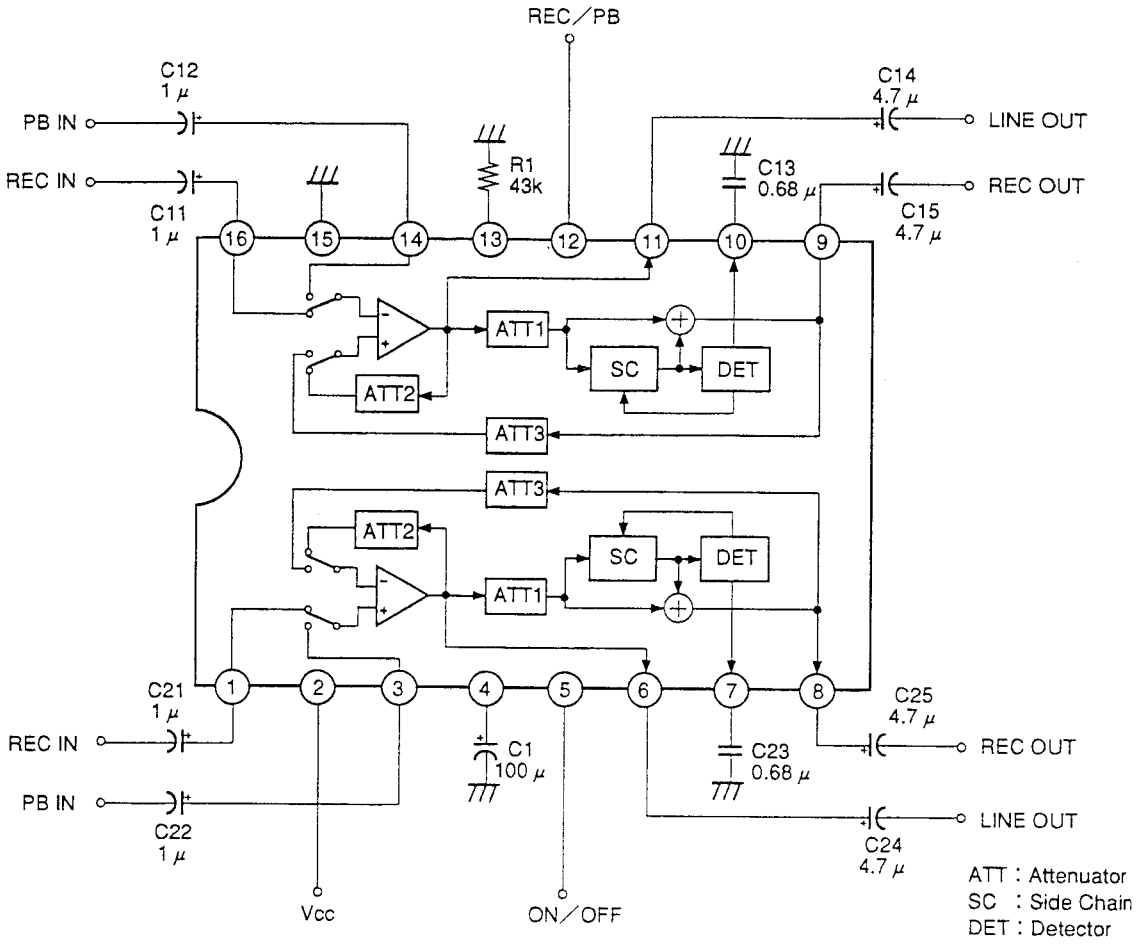
IC705 BA6247



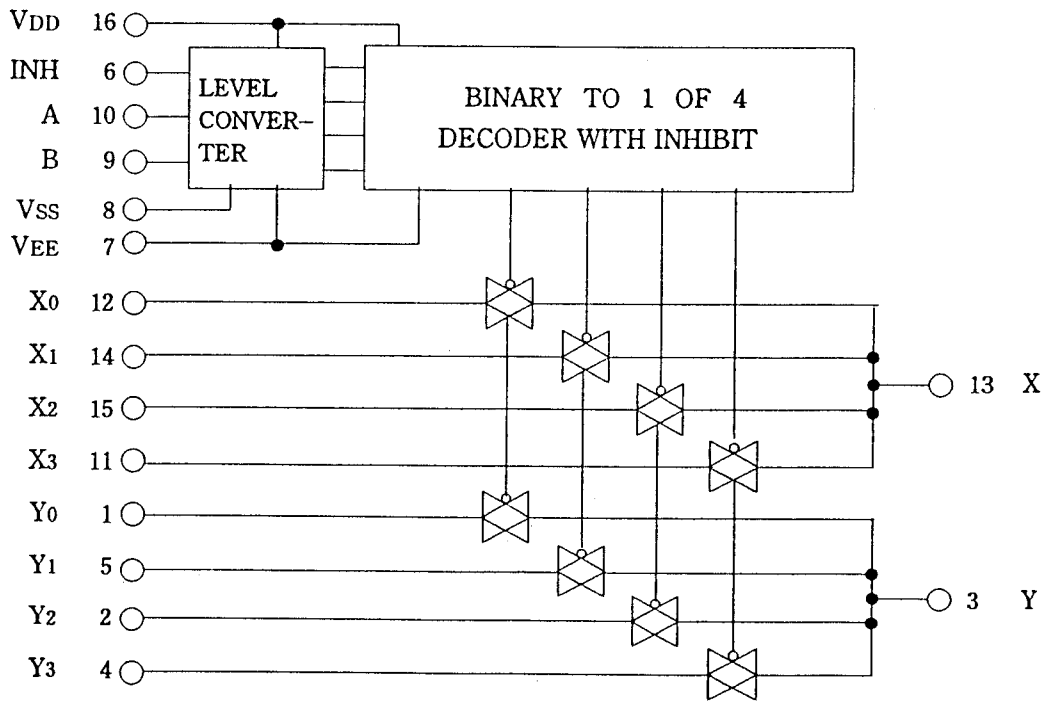
IC802 BA3442BKS



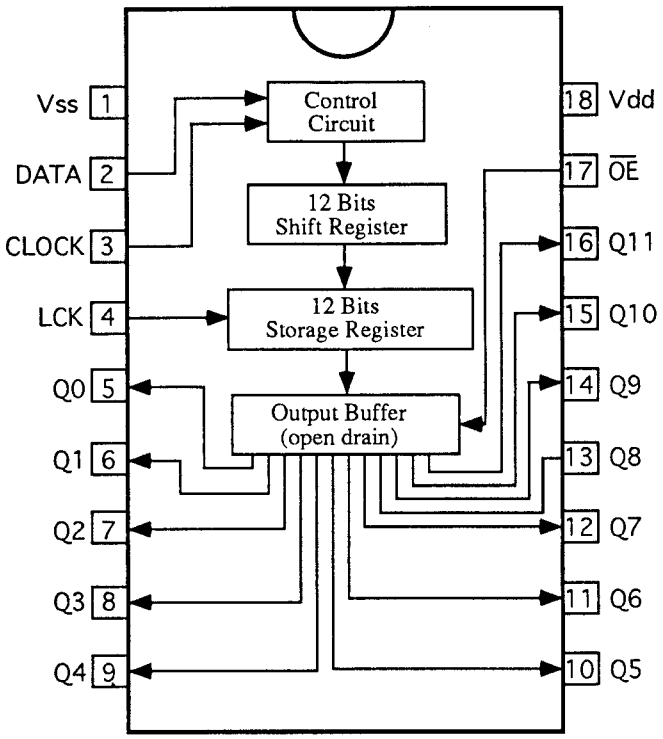
IC803 CXA1101P



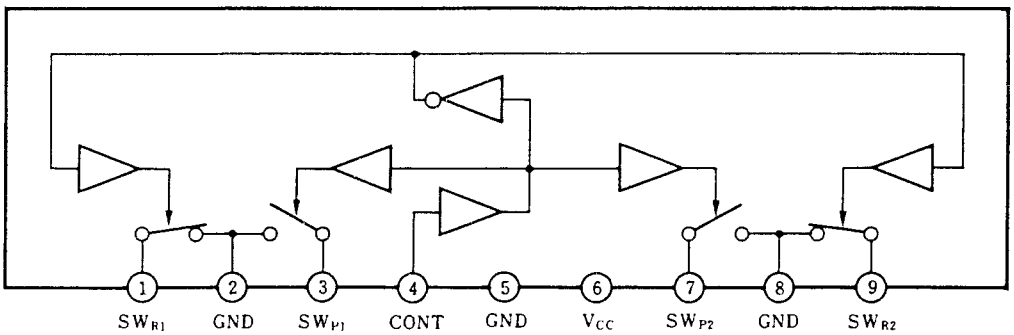
IC605 BU4052BC



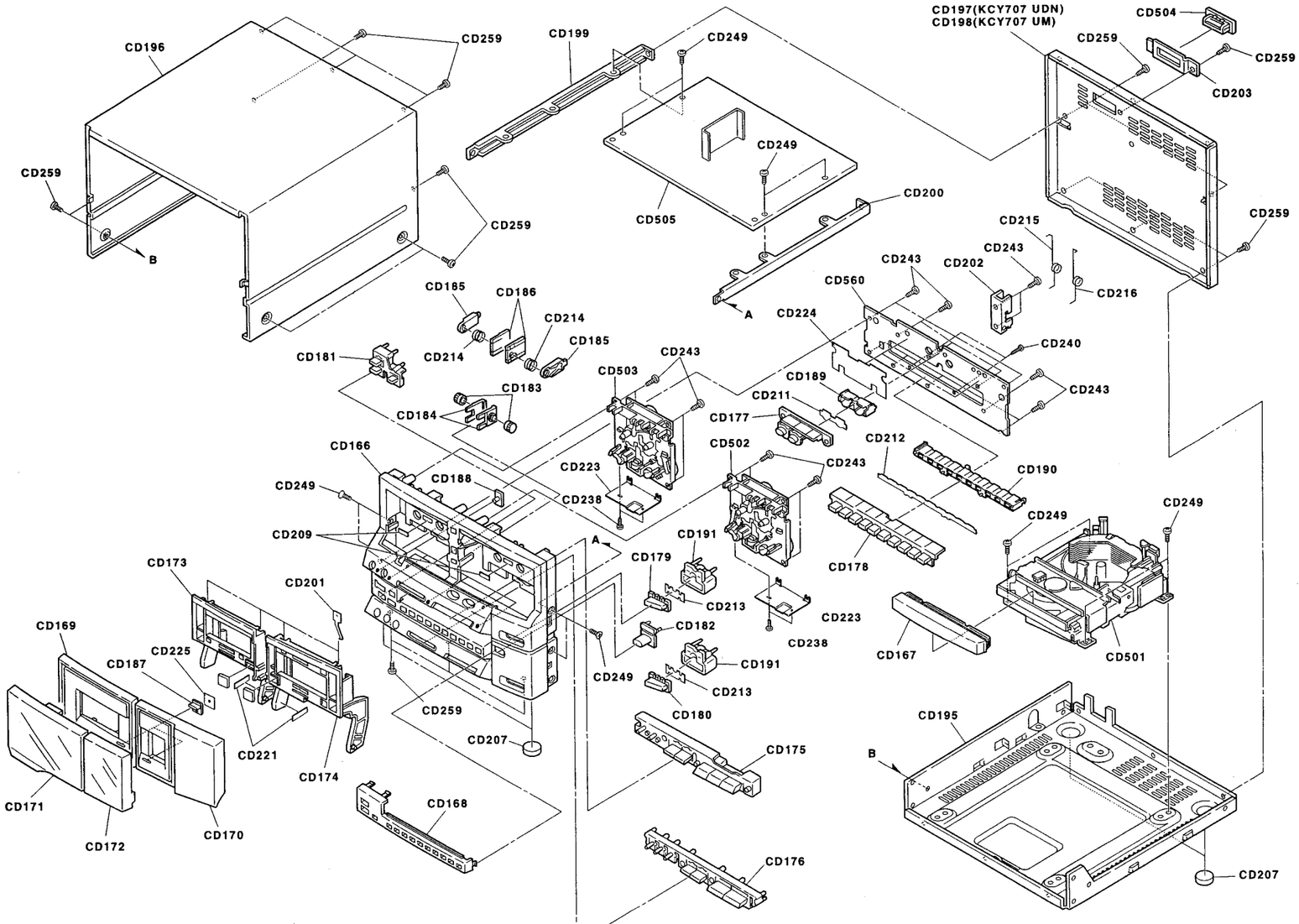
IC606 BU2092F



IC801 μPC1330HA



EXPLODED VIEW



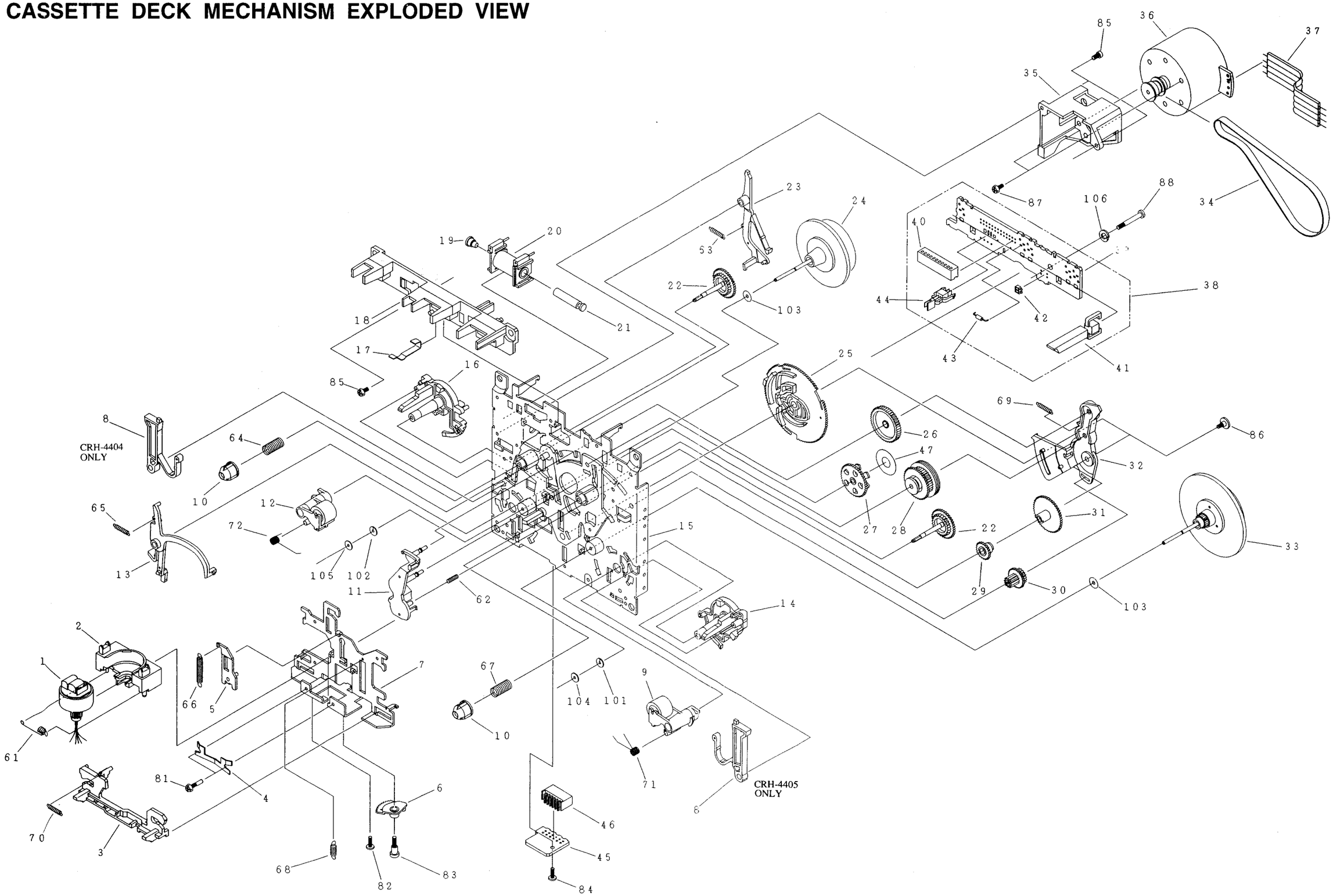
PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
166	10-3467010101	FRONT PANEL (A)
167	10-3468010101	CD DOOR
168	10-3469010101	CD PANEL
169	10-3470010101	TAPE COVER (A)
170	10-3471010101	TAPE COVER (B)
171	10-3472010101	TAPE COVER WINDOW (A)
172	10-3473010101	TAPE COVER WINDOW (B)
173	10-3474010101	TAPE HOLDER (A)
174	10-3475010101	TAPE HOLDER (B)
175	10-3476010101	DECK BUTTON
176	10-3482010101	CD BUTTON
177	10-3477010101	REC BUTTON
178	10-3481010101	DISC BUTTON
179	10-3446010101	FUNCTION BUTTON
180	10-3446020101	FUNCTION BUTTON
181	10-3480010101	RANDOM BUTTON
182	10-3479010101	OPEN BUTTON
183	10-3483010101	DUMPER GEAR
184	10-3484010101	DUMPER CASE
185	10-3485010101	PUSH LOCK
186	10-3486010101	PUSH LOCK HOLDER
187	10-3487010101	LIGHT GUIDE (A)
188	10-3488010101	LIGHT GUIDE (B)
189	10-3490010101	LED BOX (A)
190	10-3491010101	LED BOX (B)
191	10-3492010101	LED BOX (C)
195	20-1127010101	BOTTOM COVER (A)
196	20-1126010101	TOP COVER (A)
197	20-1128010101	REAR COVER (A) <U>
198	20-1128020101	REAR COVER (A) <A>
199	20-1115010101	PCB BRACKET(A)
200	20-1116010101	PCB BRACKET(B)
201	20-1135010101	TAPE SPRING

REF. NO.	PART NO.	DESCRIPTION
202	20-1129010101	TAPE HOLDER BRACKET
203	20-1168010101	CABLE BRACKET
207	30-0756010101	FOOT RUBBER
209	46-0402-1	REFLECTION PAPER
211	10-3494010101	LED FILTER (A)
212	10-3495010101	LED FILTER (B)
213	10-3496010101	LED FILTER (C)
214	20-1136010101	PUSH LOCK SPRING
215	20-1133010101	TAPE HOLDER SPRING (A)
216	20-1134010101	TAPE HOLDER SPRING (B)
501	34-0022-1	TN-2300T-122,CD MECHANISM
502	31-0064-1	CRH-44-04(REC/PB),CASSETTE MECHANISM
503	31-0065-1	CRH-44-05(PB),CASSETTE MECHANISM
504	10-3510010101	FLAT CABLE BUSHING
LW601	12P15-0003	CFG1315-0101+FLAT,LEAD CONNECTOR ASS'Y
LW701	12-0157-1	AWM2896 BNCD-P1.25x18,FFC
LW702	CL019 06-35	6P WHT,LEAD CONNECTOR ASS'Y
LW703	CL019 08-25	8P RED,LEAD CONNECTOR ASS'Y
LW704	CL019 08-25	8P WHT,LEAD CONNECTOR ASS'Y
LW801	CL0412 6/7-18	6P-7P WHT,LEAD CONNECTOR ASS'Y
LW802	CL041 03-18	3P WHT,LEAD CONNECTOR ASS'Y

<U> : U.S.A. model only
<A> : Asian model only

CASSETTE DECK MECHANISM EXPLODED VIEW



CASSETTE DECK MECHANISM PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	330934148	holder head ass'y <B>
	330934120	holder head ass'y <A>
2	332193023	frame head
3	332593015	lever head
4	161604032	spring azimuth
5	330934055	lever assist ass'y
6	222394020	gear arm head
7	33112303	chassis head B
8	332394024	eject lock
9	330934060	arm pinch R ass'y
10	182283231	cap reel
11	332393012	arm UD
12	330934059	arm pinch L ass'y
13	332393014	arm brake
14	332113019	frame B
15	330933056	chassis ass'y
16	332112020	frame C
17	331604031	spring cassette
18	332112021	frame D
19	033194259	K. plunger
20	330934051	coil ass'y
21	033004338	plunger
22	332224009	gear reel
23	3322683013	arm trigger
24	330934050	flywheel L ass'y
25	332212010	gear cam
26	332224008	gear idl
27	332224007	gear ref
28	330933045	clutch ass'y
29	332224002	gear P
30	332224001	gear A
31	33222403	gear fr
32	332393011	arm fr
33	330934048	flywheel R ass'y
34	020844124	belt
35	332193025	bracket MM
36	330934104	motor ass'y
37	160724055	wire
38	330933100	P.C.B. ass'y <B>
	330933145	P.C.B. ass'y <A>
39	330703035	P.C.B.
40	HBRK11R-2	housing <B>
	HBRK9R-2	housing <A>
41	LSA1135 or MTS10041MVLO	switch (leaf)
42	SG105 BC	photo sensor
43	ERDS2TJ681	resistor
44	MSW1722NCV	mode switch
45	3307040615	P.C.B. head
46	S6BEH	housing <B>
	S3BEH	housing <A>

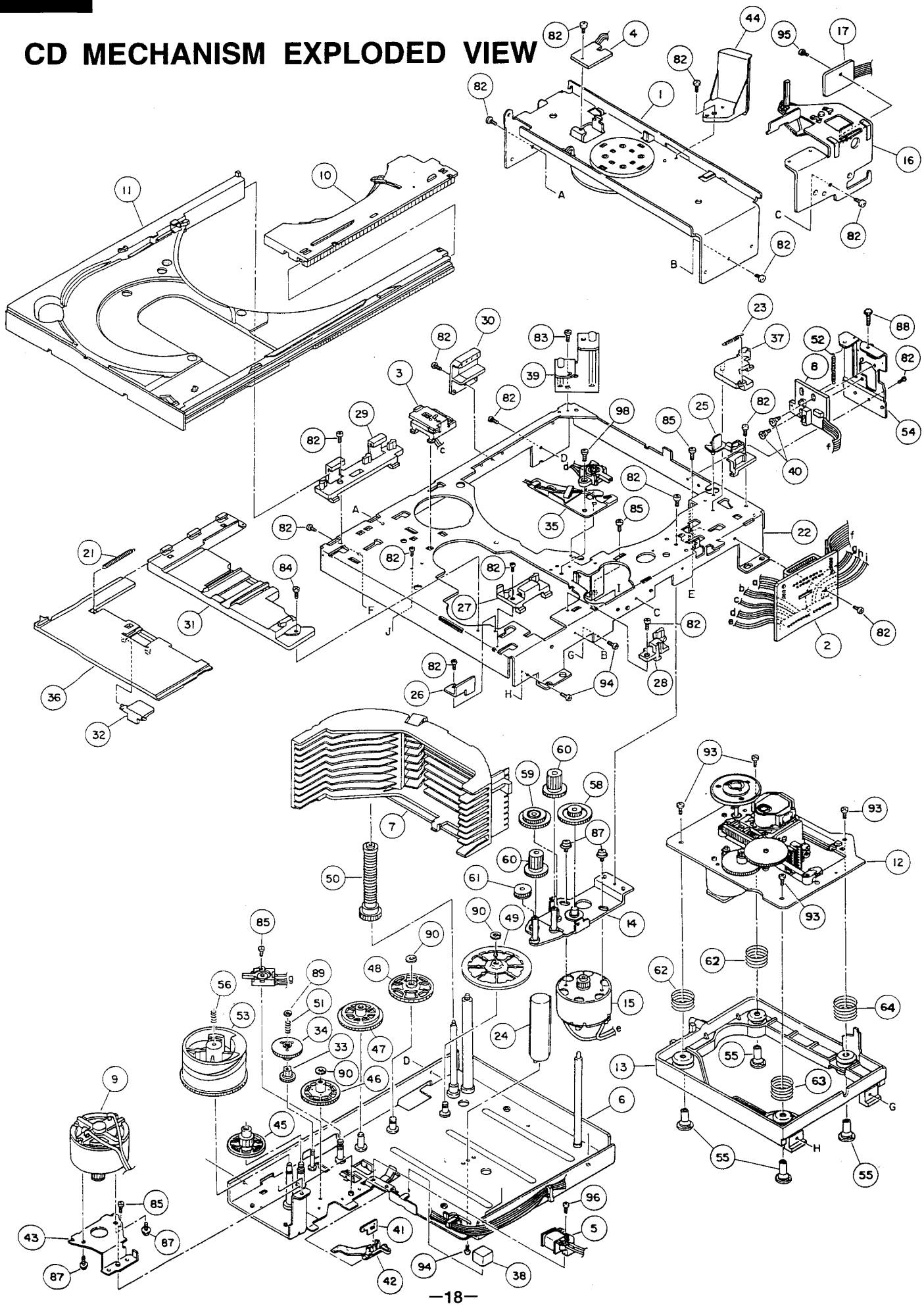
REF. NO.	PART NO.	DESCRIPTION
47	330004140	reflector
61	10804535	spring
62	10814483	spring
63	10804480	spring
64	10814493	spring
65	10804482	spring
66	10804489	spring
67	10814492	spring
68	10804478	spring
69	10804543	spring
70	10804479	spring
71	10824485	spring
72	10824486	spring
81	33004056	screw
82	GSL20A2008	screw
83	33004043	screw
84	GSE10A2004	screw
85	GSD20A2005	screw
86	33004344	screw
87	GSP11A2605	screw
88	33004368	screw
101	GWN13X050040S	washer
102	GWN13X060040S	washer
103	GWP18X060050	washer
104	GWN16X40050	washer
105	GWN15S040050	washer
106	GWS30N	washer

CASSETTE DECK MECHANISM

<A> : DECK-A(CRH-4405) ONLY

<B> : DECK-B(CRH-4404) ONLY

CD MECHANISM EXPLODED VIEW



CD MECHANISM PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	300701316	clumper bracket ass'y
2	300701306	connector PCB ass'y
3	300701309	disc sensor PCB A ass'y
4	300701311	disc sensor PCB B ass'y
5	300702317	coil ass'y
6	300702512	gear chassis ass'y
7	300702318	disc case ass'y
8	300702319	E sensor PCB ass'y
9	300702302	E motor ass'y
10	300706316	loading plate ass'y
11	300706317	disc base ass'y
12	69020301	traverse KSM-2102BAM
13	300707317	T.T. base holder ass'y
14	300711501	L gear bracket ass'y
15	300711301	L motor ass'y
16	300711306	guide plate aasy
17	300711304	L sensor PCB ass'y
21	30070187	cover plate spring(N)
22	30070185	chassis(N)
23	30070144	lock lever spring
24	30070179	disc stopper D
25	30070186	guide R4
26	30070149	disc base bracket
27	30070150	guide R1(S)
28	30070151	guide R2(S)
29	30070153	guide L1(S)
30	30070106	guide L2
31	30070155	cover plate B(S)
32	30070156	disc stopper(S)
33	300702111	E gear G2(P)A
34	30070256	E gear G2(S)B
35	30070184	switch base
36	30070162	cover plate A(S)
37	30070163	locker lever(S)
38	300702116	cushion rubber(P10)
39	30070298	worm gear bracket(P10)
40	19001204	coller screw
41	30070296	E control plate(P)
42	30070292	E control lever(P)
43	300702100	E cmotor bracket(P10)
44	30070175	guide stopper(P10)
45	30070277	E gear G3(N)
46	300702122	gear G5(TN)
47	30070279	gear G6(N)
48	300702113	gear G7(P10)
49	30070293	gear G8(P10)
50	300702112	E gear G9(P10)
51	30070232	E gear G2 spring
52	300702119	E sensor spring T
53	30070259	E gear G4(S)
54	30070297	E sensor bracket(P10)

REF. NO.	PART NO.	DESCRIPTION
55	30070713	float rubber holder
56	30070283	E gear G4 spring
58	300701125	L gear B(N)
59	300701126	L gear C(N)
60	30071105	L gear D
61	30071106	L gear E
62	30070766	floating spring NB
63	30070768	floating spring ND
64	30070767	floating spring NC
82	9P0420041	tapping screw M2x4
83	9B1320041	C tapping bind screw M2x4
84	9P0420061	tapping screw M2x6
85	PC2020301	tapping screw SG M2x3
87	9P03026221	cup screw M2.6x2.2
88	9P1720102	cup screw (+-)M2x10
89	9PW0250080	PW cut 1.85x5x0.5
90	9PW0250110	PW cut 2.6x6x0.5
93	9B1220041	P tapping bind screw M2x4
94	9P0720061	P tapping screw M2x6
95	9C0320353	camera screw M2x3.5
96	9P0420101	tapping screw M2x10
98	9P0420051	tapping screw M2.6x5

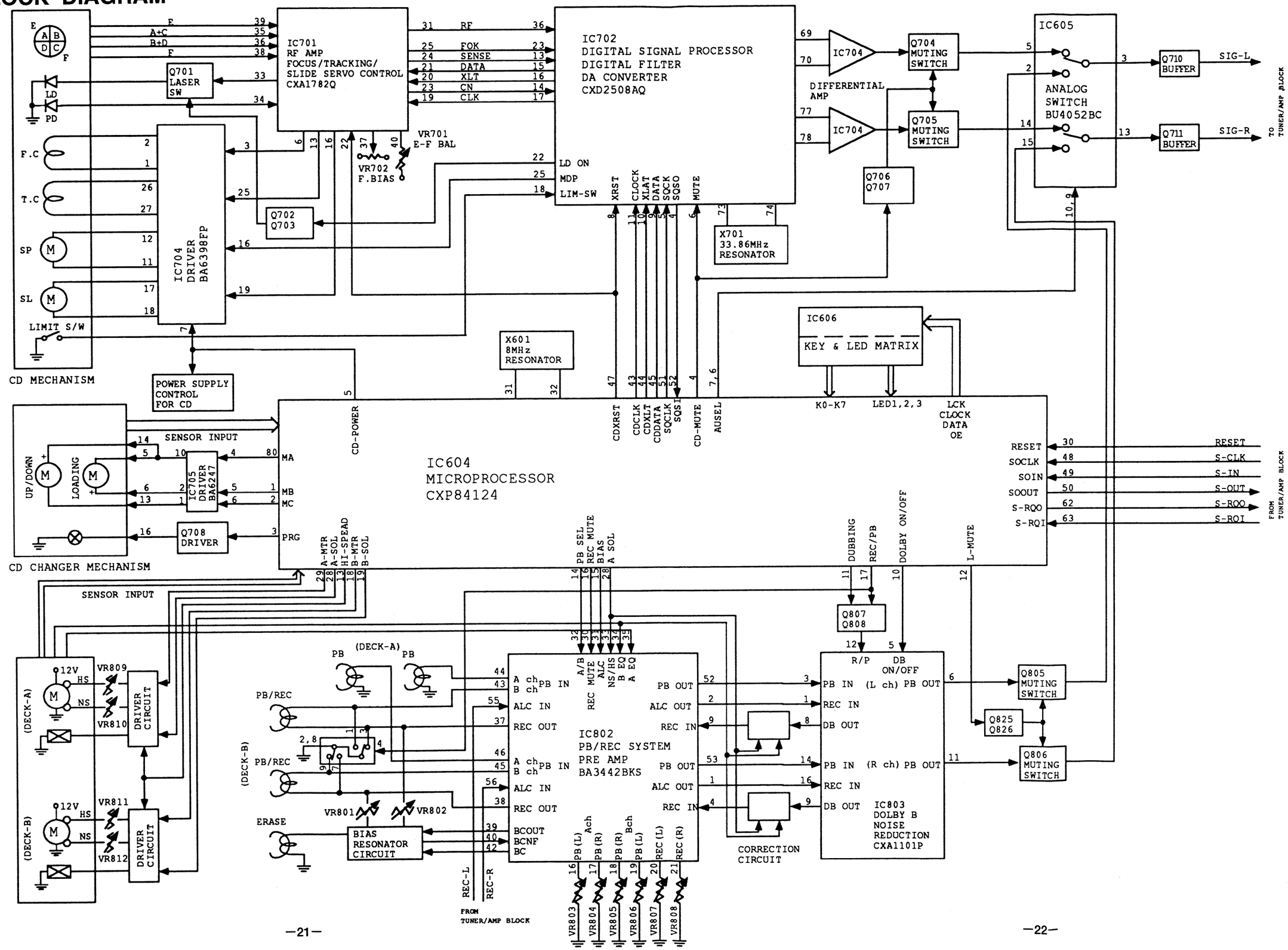
PRINTED CIRCUIT BOARD PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
MAIN CIRCUIT PC BOARD		
	IC	
IC602	222780053 or 1-0185-1	NJM78L05
IC603	222780091 or 1-0138-1	NJM78M09
IC604	1-0311-1	CXP84124-136Q
IC605	22240328 or 1-0207-1	BU4052BC
IC701	1-0302-1	CXA1782BQ
IC702	1-0303-1	CXD2508AQ
IC703	222652 or 1-0281-1	M5218L
IC704	1-0304-1	BA6398FP
IC705	1-0306-1	BA6247
IC801	22240147 or 1-0309-1	μPC1330HA
IC802	1-0307-1	BA3442BKS
IC803	22240086 or 1-0308-1	CXA1101P
	TRANSISTOR	
Q601,603,607	2202705 or 2-2SD2394E-7	2SD2394E
Q602,604,606,608, Q704,705,709,804, Q805,806,807,815, Q820,823,824	2213284 or 2-2SC1740S-S7	2SC1740SR
Q605	2213355 or 2-2SA933S-S7	2SA933AS
Q609,610,611	2-2SB1333-7	2SB1333
Q613-617,703,707, Q801,802,808,809, Q812,817	2213160 or 2-DTC124ES-7	DTC124ES
Q701,810	2-2SA1585SQ-7	2SA1585SQ
Q702,706,803,825	2212600 or 2-DTA124ES-7	DTA124ES
Q708,814,819	2-2SB1374Q-7	2SB1374Q
Q811	2-2SD2172-7	2SD2172
Q813,816,818,821	2-2SC1741S-7	2SC1741S
	FET	
Q710,711	2212195	2SK241GR
	ZENER DIODE	
D605	3-Z-MTZJ10B-8	MTZJ10B
D606	3-Z-MTZJ5.6B8	MTZJ5.6B
D607	3-Z-MTZJ13B-8	MTZJ13B
D609,610,611	3-Z-MTZJ8.2B8	MTZJ8.2B
	DIODE	
D608	3-RB100A	RB100A
D612	223839	1N4002
	CERAMIC RESONATOR	
X601	29-0069-1	CST8MTW
X701	29-0085-1	CSA33.86MXZ040
	COIL	
L801,802	6-0310-1	10RB type,39mH
L803	CHNS-6010	10PA type
	MICRO INDUCTOR	
L601,701	26-0012-2	LAL03,10μH
L602	26-0056-1	LAL03,100μH

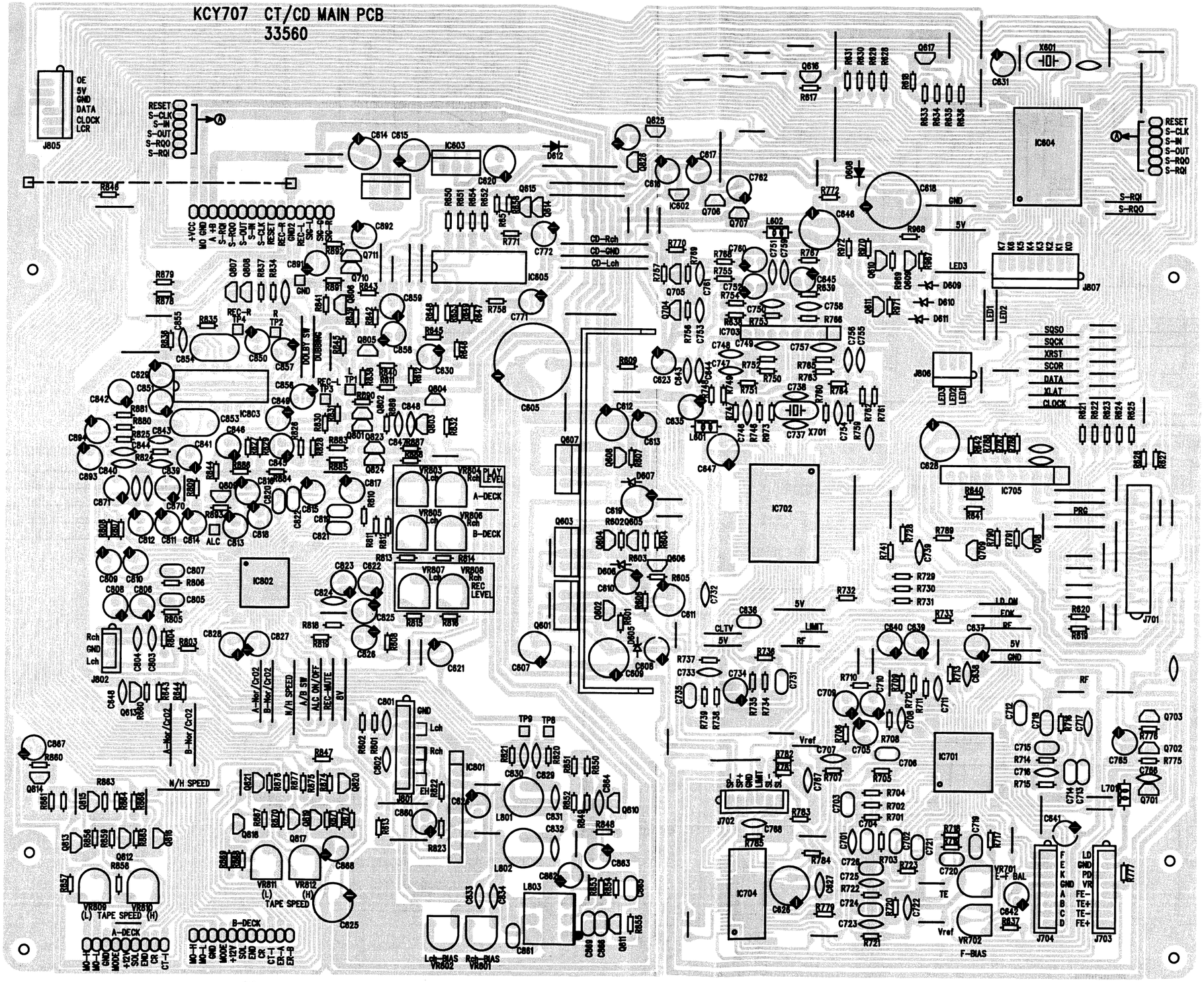
CIRCUIT NO.	PART NO.	DESCRIPTION
	CAPACITOR	
C605	354753329	25V3300μF
C618	3000079	5.5V0.22F
	TRIMER RESISTOR	
VR701,702,801,802	5210068	47KΩ
VR803-806	5210064	10KΩ
VR807,808	5210066	22KΩ
VR809,811-812	5210062	4.7KΩ
	SOCKET	
J701	12-0151-1	CFF1118-0101 or HLEM18S-1
J702	12S6-J0001	B6B-PH
J703,704	12S8-J0001	B8B-PH
J801	12S7-J0001	B7B-EH
J802	12S3-J0001	B3B-EH
J805	12S6-C0002	52147-0610
J806	12S3-C0002	52147-0310
J807	12S8-C0002	52147-0810
	FLAT CABLE	
LW803	12-0177-1	UL2651#26×9
LW804	12-0178-1	UL2651#26×11
LW808	12-0171-1	UL2651#26×6
	OTHERS	
E600	20-1132010101	HEAT SINK(C)

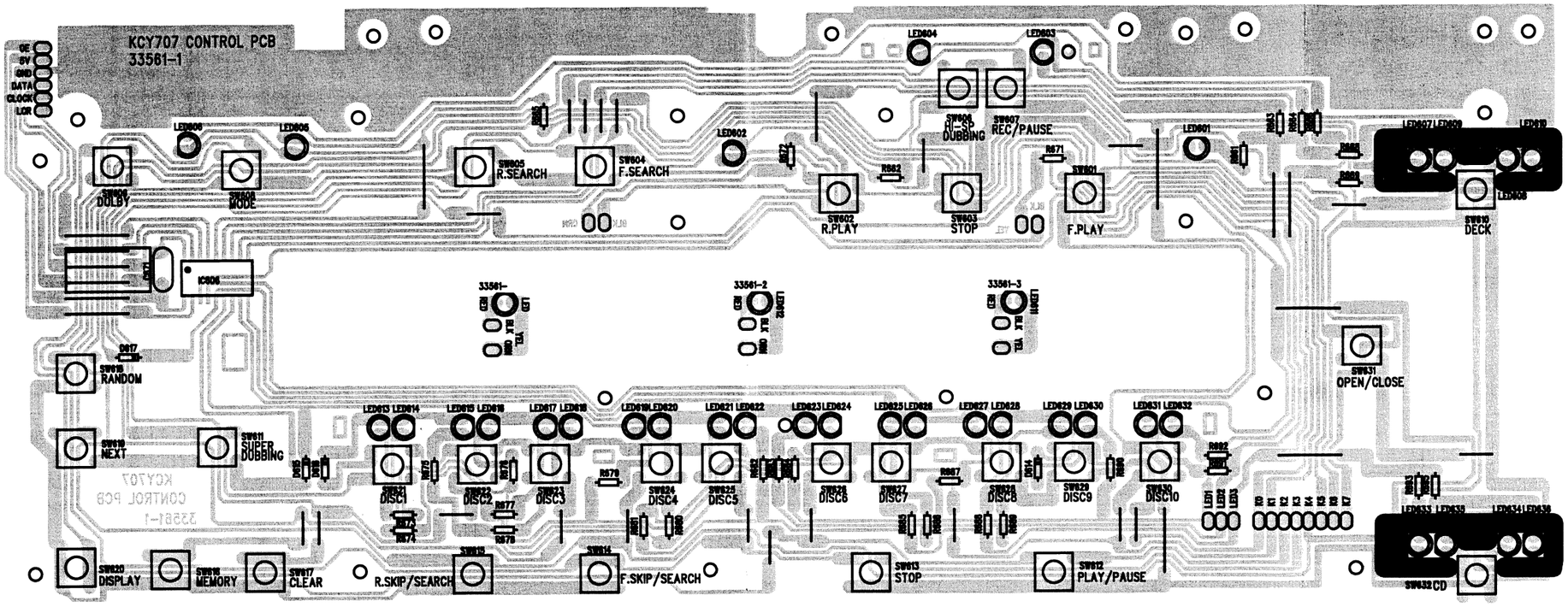
CONTROL CIRCUIT PC BOARD		
	IC	
IC606	1-0319-1	BU2092F
	DIODE	
D614,615,616,617	223163 or 3-1SS133-1	1SS133
	LED	
LED601,602	28-0063-1	SLR332MG
LED603,604,607,608, LED611-613,615,617, LED619,621,623,625, LED627,629,631,633, LED634	28-0057-1	SLV-312VC
LED605,606	28-0062-1	SLR332VR
LED609,610,614,616, LED618,620,622,624, LED626,628,630,632, LED635,636	28-0058-1	SLV-312MC
	TACT SWITCH	
SW601-611,614-632	8-0263-2	SKHHAM
SW612,613	8-0269-1	SKHHAR
	FLAT CABLE	
LW805	12-0174-1	UL2651#26×6
LW806	12-0163-1	UL2651#26×3
LW807	12-0176-1	UL2651#26×8

BLOCK DIAGRAM

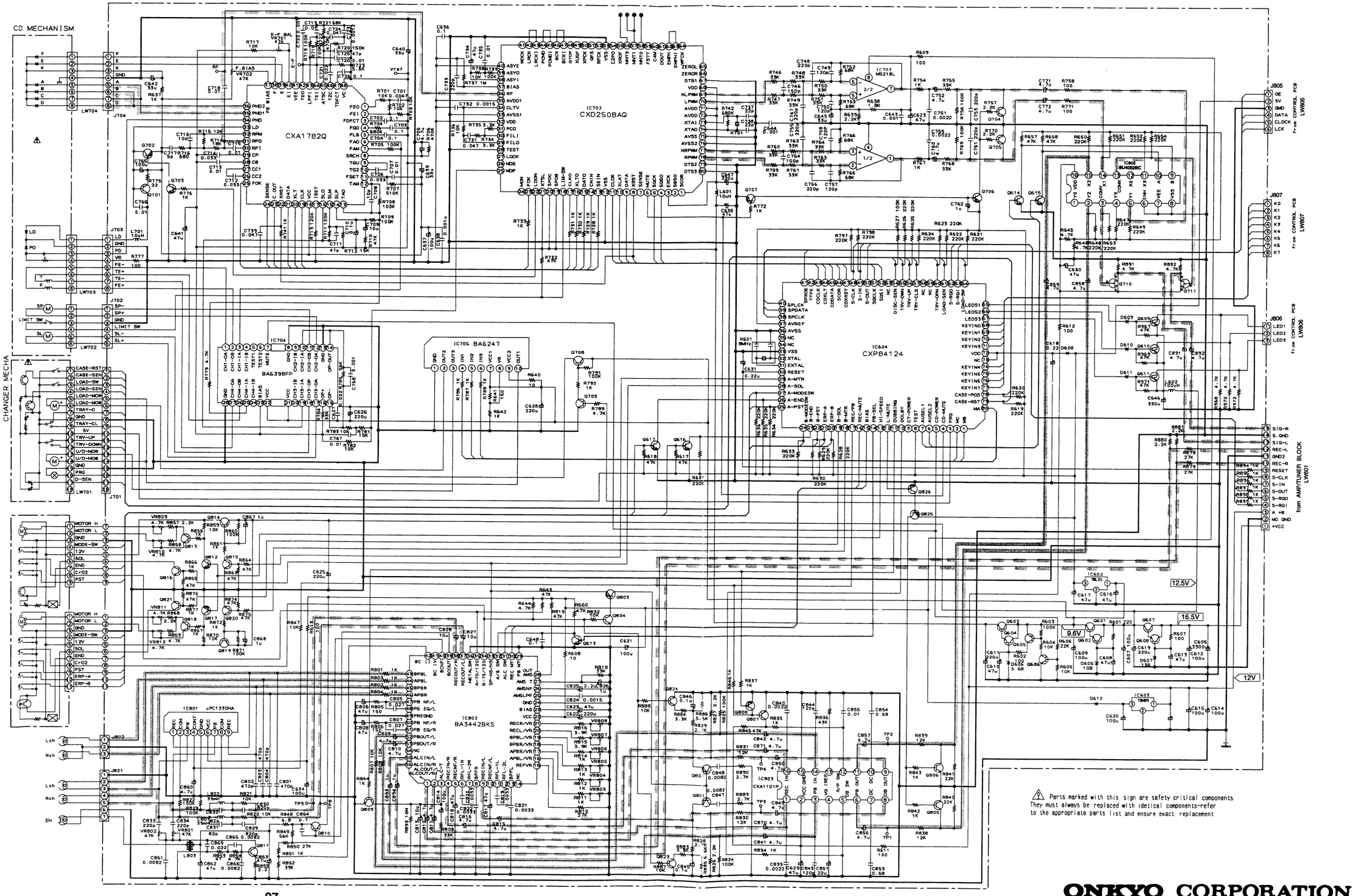


PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



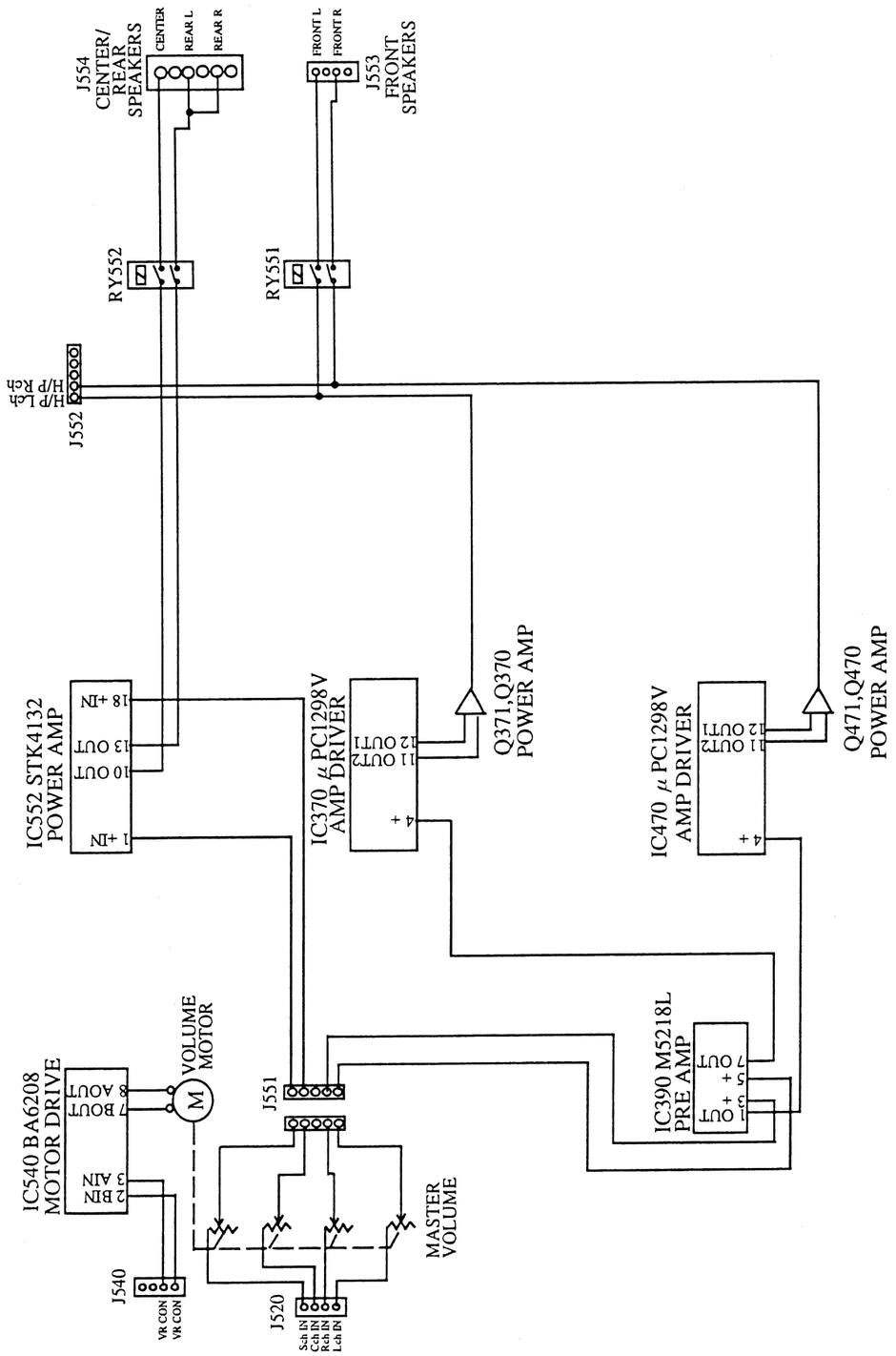

KCY707 CONTROL PCB
33561-1
OE
5V
GND
DATA
CLOCK
LCR
LED806
LED805
LED804
LED803
LED802
LED801
LED807 LED809
LED808
SW806 DOLBY
SW808 MODE
SW805 R.SEARCH
SW804 F.SEARCH
SW809 HI-SP DUBBING
SW807 REC/PAUSE
SW802 R.PLAY
SW803 STOP
SW801 F.PLAY
SW810 DECK
R871
R862
IC806
33561-1
33561-2
33561-3
D817
SW818 RANDOM
SW831 OPEN/CLOSE
SW819 NEXT
SW811 SUPER DUBBING
LED813 LED814
LED815 LED816
LED817 LED818
LED819 LED820
LED821 LED822
LED823 LED824
LED825 LED826
LED827 LED828
LED829 LED830
LED831 LED832
SW821 DISC1
SW822 DISC2
SW823 DISC3
SW824 DISC4
SW825 DISC5
SW826 DISC6
SW827 DISC7
SW828 DISC8
SW829 DISC9
SW830 DISC10
R877
R878
R879
R867
SW820 DISPLAY
SW816 MEMORY
SW817 CLEAR
R.SKIP/SEARCH
F.SKIP/SEARCH
SW813 STOP
SW812 PLAY/PAUSE
LED835 LED836
LED840 LED839
SW832 CD

SCHEMATIC DIAGRAM



⚠ Parts marked with this sign are safety critical components
They must always be replaced with idetical components-refer
to the appropriate parts list and ensure exact replacement

BLOCK DIAGRAMS (POWER SECTION)



PRINTED CIRCUIT BOARD PARTS LIST

POWER AMP PCB ASS'Y (RE502)

Ref. No.	Part No.	Description
	ICS	
IC551	22240360 or 1-0278-1	UPC1237HA
IC552	1-0279-1	STK4132mk II (RY-505/507)
IC552	1-0280-1	STK4152mk II (RY-707)
IC553	222780122NEC or 1-0113-1	NJM78M12
IC554	222790122 or 1-0321-1	NJM79M12
	TRANSISTORS	
Q351,451	2213284 or 2-2SC1740S-S7	2SC1740SR
Q352,452	2213284 or 2-2SC1740S-S7	2SC1740SR (RY-505/507/707)
Q561,562	2213355 or 2-2SA933S-S7	2SA933S
Q560	2-2SC2389-S-7	2SC2389S (RY-505/507/707)
	DIODES	
D351,451,590	223163 or 3-1SS133-1	1SS133 (RY-505/507/707)
D560,591	223163 or 3-1SS133-1	1SS133
D575,576,577,578	223839 or 3-IN4002-1	1N4002 (RY-303/307)
D575,576,577,578	22380003F or 3-IN5402-1	1N5402 (RY-505/507/707)
D579,580,581,582	22380003F or 3-IN5402-1	1N5402
D589	223839 or 3-IN4002-1	1N4002
	CAPACITORS	
C557,558	354761029	1000 μF 35V ELECT. (RY-303/307) 3300 μF 35V ELECT. (RY-505/507) 3300 μF 50V ELECT. (RY-707)
C583,584		6800 μF 50V ELECT. (RY-303/307/505/507) 6800 μF 63V ELECT. (RY-707)
	INDUCTORS	
L362,462	7A-0075	1 μH (RY-505/507/707)
L385,485	7A-0075	1 μH
	TERMINALS	
J553	23-F003-1	SPEAKER HSP134V-03
J554	23-F004-1	SPEAKER (SURROUND) HSP116V-04 (RY-505/507/707)
	JACK	
J555	23-B033-1	SUB WOOFER HTJ032-09BB (RY-507/507/707)
	CONNECTORS	
J551	12S3-J0001	B3B-EH (RY-303/307)
J551	12S5-J0001	B5B-EH (RY-505/507/707)
J556	12S3-C0002	52147-0310
J552	12S5-C0002	52147-0510
	RELAYS	
RY551	8-RL-0001-1	(SPEAKER L/R) OMI-SS-224LM
RY552	8-RL-0001-1	(SPEAKER C/S) OMI-SS-224LM (RY-505/507/707)
	25-0572-01	POWER AMP PCB

POWER AMP TRANSISTOR PCB ASS'Y (RE503)

Ref. No.	Part No.	Description
	ICs	
IC370	22240311 or 1-0277-1	μPC1298V
IC390	222652 or 1-0281-1	M5218L
IC470	22240311 or 1-0277-1	μPC1298V
	TRANSISTORS	
Q370,470	2-2SA1633-7	2SA1633E
Q371,471	2-2SC4278-7	2SC4278E
Q372,472	2213284 or 2-2SC1740S-S7	2SC1740SR
Q571,572	2-2SC3271N-7	2SC3271N

Ref. No.	Part No.	Description
	DIODES	
D371,471	223163 or 3-1SS133-1	1SS133
	TRIMMER POTENTIOMETERS	
VR370	RH0615CS4J	4.7KΩ
VR470	RH0615CS4J	4.7KΩ
	20-1170010101	HEAT SINK (D)
	30-0756010101	SLLICONE SHEET
	25-0571-01	POWER TR. PCB

AC PCB ASS'Y (RE504)

Ref. No.	Part No.	Description
	AC CORDS	
RE505	⚠14-0041-2	SPT-2 #18 POLARIZED UL L=2m <D>
RE506	⚠14-0015-1	VDE Type 2.5A/250V L=6ft <M>
	SWITCH	
F551	⚠8-0268-1	DUAL VOLTAGE SDKGA4-A-3-R <M>
	FUSES	
F551	⚠4-0035-1	GMC T5A/250V (RY-707 <D>)
F551	⚠4-0039-1	S506 T5A/250V (RY-707 <M>)
F551	⚠4-0040-1	GMC T4A/250V (RY-303/505)
F552	⚠4-0041-1	S506 T4A/250V (RY-307/507)
F552	⚠4-0042-1	GMC T2.5A/250V <D>
	⚠4-0043-1	S506 T2.5A/250V <M>
	20-00463-1	FUSE HOLDER
LW551	25-0570-01	AC PCB

VIDEO SWITCH PCB ASS'Y (RE507)

Ref. No.	Part No.	Description
	IC	
IC580	1-0291-1	BA7612N
	TRANSISTORS	
Q580,582	2213355 or 2-2SA933S-S7	2SA933S
Q581,583	2213284 or 2-2SC1740S-S7	2SC1740SR
	INDUCTOR	
L580	26-0053-1	10 μH LAL02
	JACK	
J580	25-B032-1	(MONITOR/VIDEO) HSP213V-08
	CONNECTORS	
J581	12S2-J0001	B2B-EH
J582	12S4-C0002	52147-0410
	25-0583-01V	VIDEO PCB

VR PCB ASS'Y (RE508)

Ref. No.	Part No.	Description
	ICs	
IC540	22240372 or 1-0283-1	BA6208
IC541	1-0275-1	NJM78L06
	CONNECTOR	
J540	12S4-C0002	52147-0410
	MOTOR VOLUMES	
VR540	15-0139-1	RK16812MG A100KΩ ×2 (RY-303/307)
VR540	15-0138-1	RK16814MG A100KΩ ×4 (RY-505/507/707)
	25-0573-01	VR(VOLUME) PCB

MAIN PCB ASS'Y (RE509)

Ref. No.	Part No.	Description
	ICs	
IC1	1-0299-1	LA1832
IC2	1-0300-1	LC72131
IC101	222840511 or 1-0293-1	BU4051BC
IC102	222840531ROH o 1-0287-1	BU4053BC
IC103	1-0285-1	M5227P
IC201	222840511 or 1-0293-1	BU4051BC
IC202	222840531ROH o 1-0287-1	BU4053BC
IC203	1-0285-1	M5227P
IC301	222780124JRC or 1-0113-1	NJM7812
IC302	222780053 or 1-0185-1	NJM78L05
IC501	1-0322-1	BA7726AS (RY-307/507/707)
IC502	1-0323-1	BU9252S(RY-307/507/707)
IC503	1-0289-1	LA2785 (RY-505/507/707)
IC504	1-0290-1	LV1011 (RY-505/507/707)
IC506	1-286-1	NJU7305L
IC507	222652 or 1-0281-1	M5218L (RY-505/507/707)
IC508	222652 or 1-0281-1	M5218L
IC510	222652 or 1-0281-1	M5218L (RY-303/505)
IC511	222652 or 1-0281-1	M5218L (RY-303/307)
	TRANSISTORS	
Q2, 5	2-2SC2668-6	2SC2668 O
Q4	2-2SC2995-6	2SC2995 O
Q30	2211722 or 2-2SC1923R-6	2SC1923 R
Q33,35,36,37,38,39, 183,283,501,502	2213284 or 2-2SC1740S-S7	2SC1740SR
Q184,284	2213284 or 2-2SC1740S-S7	2SC1740SR (RY-505/507/707)
Q319	2213355 or 2-2SA933S-S7	2SA933S
	FETs	
Q 1	2-3SK136-3	3SK85(136)
Q 3	2212195 or 2-2SK241GR-6	2SK241GR
	DIODES	
D33,307	223163 or 3-1SS133-1	1SS133
D301,302,303,304	223839 or 3-IN4002-1	1N4002
	VARICAP DIODES	
D 6, 7, 8, 9	3-ISV153-1	1SV-153
D10(11)	3-KV1236Z-4 or 223839	KV1236Z
	ZENNER DIODES	
D318	3-Z5.1V-8	MTZJ5.1B
D319	3-Z-MTZJ30B-8	MTZJ30B
	CAPACITOR	
C311		4700 μ F/25V ELECT.
	COILS	
L1	7A-0070	LS-010 5.5mmx3.5T 0.6mm-C
L2	7A-0069	LS-011 5.5mmx2.5T 0.6mm-C
L3	7A-0066	LS-0012 3mmx7.5T 0.4mm-C
L4	7A-0072	LS-0015 4.5mmx3.5T 0.6mm-C
L10	7A-0067	LS-0017 3mmx8.5T 0.4mm-A
L16	7A-0068	LS-0014 4.5mmx5.5T 0.6mm-C
L17	7A-0073	LS-0013 4mmx2.5T 0.4mm-C
L18	7A-0071	LS-0016 4.5mmx4.5T 0.6mm-C
L19	7A-0073	LS-0013 4mmx2.5T 0.4mm-C
L30	7A-0074	BALUN TRANS BL-H002
L31	7B-0083	AM ANT MRHNF-45635
L32	7B-0084	AM OSC A7BRS-11966

Ref. No.	Part No.	Description
	COILS	
L 9	26-0020-3	2.2 μ H LAL02
L33	26-0034-7	4.7 μ H LAL02
L34	26-0045-1	0.22 μ H LAL02
L530,531	26-0053-1	10 μ H LAL02 (RY-505/507/707)
	IFTs	
IFT1	6-0228-1	FM A119AC-K6155X-KR
IFT2	6-0229-1	AM A7LCS-12179AQ
	TERMINAL	
J1	23-F006-1	FM/AM ANT. Black HSP-105V-02
	JACK	
J501	23-B031-1	(AUDIO)HSP246V-01
	CONNECTORS	
J502	12S15-0004	SYSTEM CFG1115-0101-0101
J510	12S4-C0002	52147-0410
J511	12S9-C0002	52147-0910
J512	12S5-C0002	52147-0510
J513	12S4-C0002	52147-0410
J514	12S3-C0002	52147-0310 (RY-307/507/707)
J515	12S8-C0002	52147-0810
J516	12S4-C0002	(03) 52147-0410
J517	12S4-C0002	(03) 52147-0410 (RY-505/507/707)
J518	12S3-J0001	B3B-EH
J519	12S3-C0002	52147-0310
J520	12S5-J0001	B5B-EH (RY-505/507/707)
J521	12S7-C0002	(06) 52147-0710
J522	12S3-J0001	B3B-EH (RY-303/307)
J523	12S5-C0002	52147-0510
	CERAMIC FILTERS	
CF1,2	29-0086-1	SK10.7M4-A0-20G
CF3	29-0087-1	AHCFM2-450BL
	CERAMIC RESONATORS	
X1	29-0089-1	CSB456F15
X2	29-0088-1	CDA10.7MG46-A
X501	29-0011-1	CSB455E 455KHz (RY-307/507/707)
X502	29-0069-1	CST8MTW 8MHz (RY-505/507/707)
	TRIMMER CAPACITOR	
TC1	TZ03R200FR169	
	CRYSTAL	
X3	21-0096-1	HC-49/U 7.2MHz
	FILTER	
LPF1,2	29-0083-1	MPX 253AGGS-1340
	20-1140010101	SHIELD PLATE (A) t=0.32
	25-0578-01	MAIN PCB

DISPLAY PCB ASS'Y (RE510)

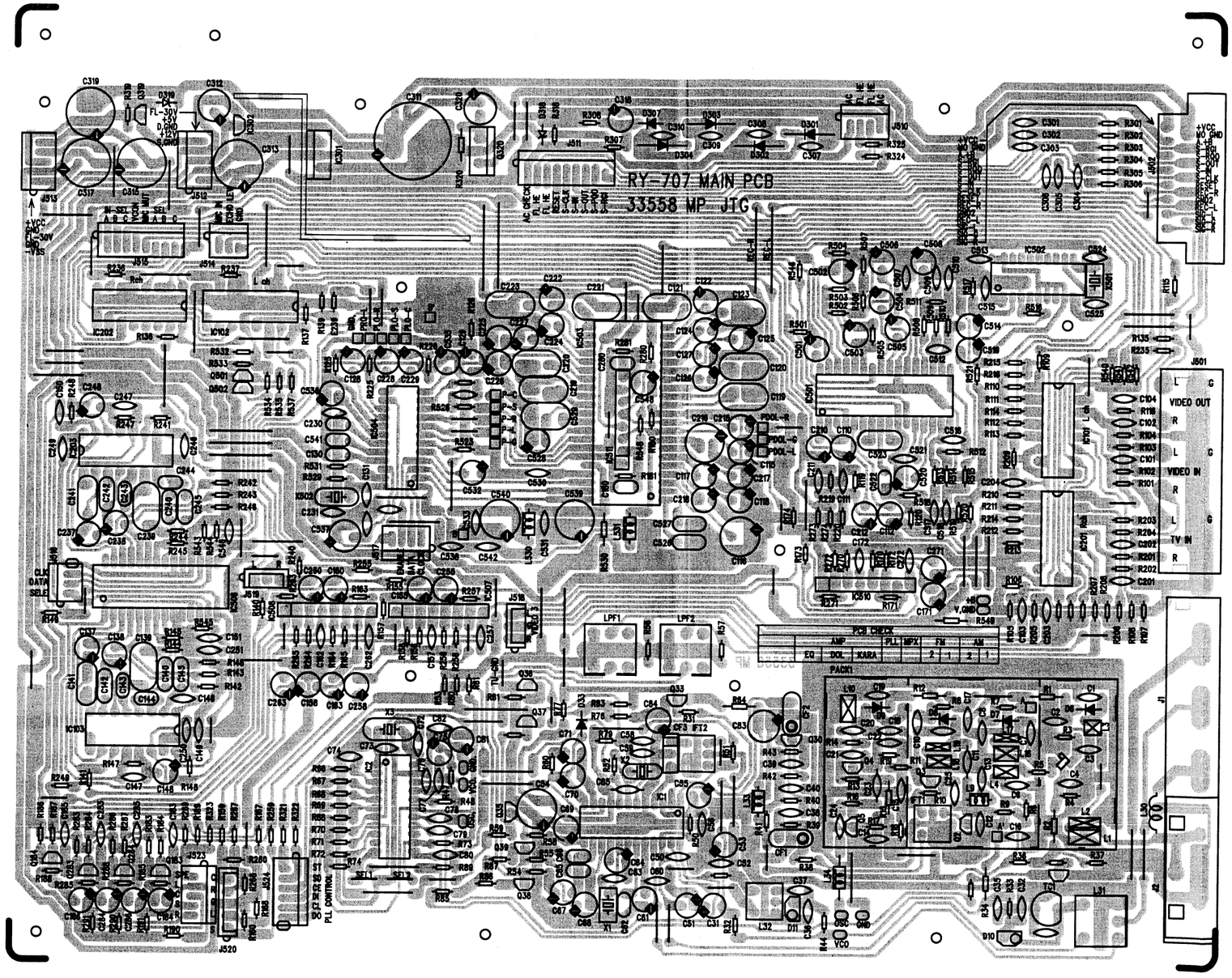
Ref. No.	Part No.	Description
	ICs	
IC901	1-0297-1	CXP82832-102Q
IC902	1-0319-1	BU2092F
IC903	1-0319-1	BU2092F
IC904	22240329 or 1-0233-1	BU4094BC
IC905	1-0284-1	BA3834F
IC906	22240328 or 1-0207-1	BU4052BC
IC907	1-0294-1	TA2011S (RY-307/507/707)
	TRANSISTORS	
Q901,902	2213160 or 2-DTC124ES-7	DTC124ES (RY-307/507/707)
Q905,906,907	2-2SB1333-7	2SB1333
	DIODES	
D901,902,903,904, 905	223163 or 3-1SS133-1	1SS133
D906	3-RB100A	RB100A
	ZENNER DIODES	
D908,909,910	3-Z-MTZJ8.2B8	MTZJ8.2B
D911,	3-Z-MTZJ6.8B8	MTZJ6.8B

Ref. No.	Part No.	Description
	LEDs	
LED901,902,905,906, 909,910,913,914, 917,918,919,920, 921,922,923	28-0057-1	SLV-312VC RED
LED903,904,907,908, 911,912,915,916, 924,941,942,953, 955	28-0058-1	SLV-312MC GREEN
LED925,929,933,937	26-0056-1	SLV-312VC RED (RY-707)
LED926,930,934,938, 943,944,945,956, 957	28-0058-1	SLV-312MC GREEN (RY-707)
LED927,935	28-0057-1	SLV-312VC RED (RY-303/307)
LED927,931,935	28-0057-1	SLV-312VC RED (RY-505/507)
LED928,936	28-0058-1	SLV-312MC GREEN (RY-303/307)
LED928,932,936,943, 944,945,956,957	28-0058-1	SLV-312MC GREEN (RY-505/507)
LED939,940,946,947, 952	26-0061-1	SLV-312DC ORANGE
LED948,949,950	26-0061-1	SLV-312DC ORANGE (RY-505/507/707)
LED951	26-0056-1	SLR-332VR RED (RY-307/507/707)
	CAPACITOR	
C902		0.22F 5.5V SUPPER ELECT.
	FL	
FL901	27-0089-1	DISPLAY BJ455GK
	TACT SWITCHES	
SW901,902,903,904, 905,906,907,908, 909,910,911,912, 913,914,915	8-0263-2	SKHHAM H=5mm
SW916,918,920,922	8-0263-2	SKHHAM H=5mm (RY-707)
SW917,921	8-0263-2	SKHHAM H=5mm (RY-303/307/505/507)
SW919	8-0263-2	SKHHAM H=5mm (RY-505/507)
SW923	8-0263-2	SKHHAM H=5mm (RY-307/507/707)
	JACKS	
J901	23-B038-1	LPV8529-0100(3P)
J902	23-B029-1	(HEADPHONE) HTJ035-18A
J903	23-B029-1	(M1C) HTJ035-18A (RY-307/507/707)
	VOLUMES	
VR901	15-0136-1	(BAL) RK14K124 B10K Ω ×2
VR902	15-0137-1	(MIXING) RK14K12D B100K Ω ×2 (RY-307/507/707)
VR903	15-0137-1	(ECHO) RK14K12D B100K Ω ×2 (RY-307/507/707)
	CERAMIC RESONATOR	
X901	29-0069-1	CST8MTW 8MHz
	CRYSTAL	
X902	21-0101-3	CRYSTAL 32.768KHz
	OPTIC RECEIVER	
RMC901	28T-0018-1	MODULE IS1U621L
	MICRO INDUCTOR	
L901	26-0056-1	100 μ H LAL03
	10-3448010101	VFD HOLDER
	10-3449010101	SENSOR HOLDER
33559	25-0574-01	DISPLAY PCB

NOTE: <D> 120V model only
<M> Asian model only

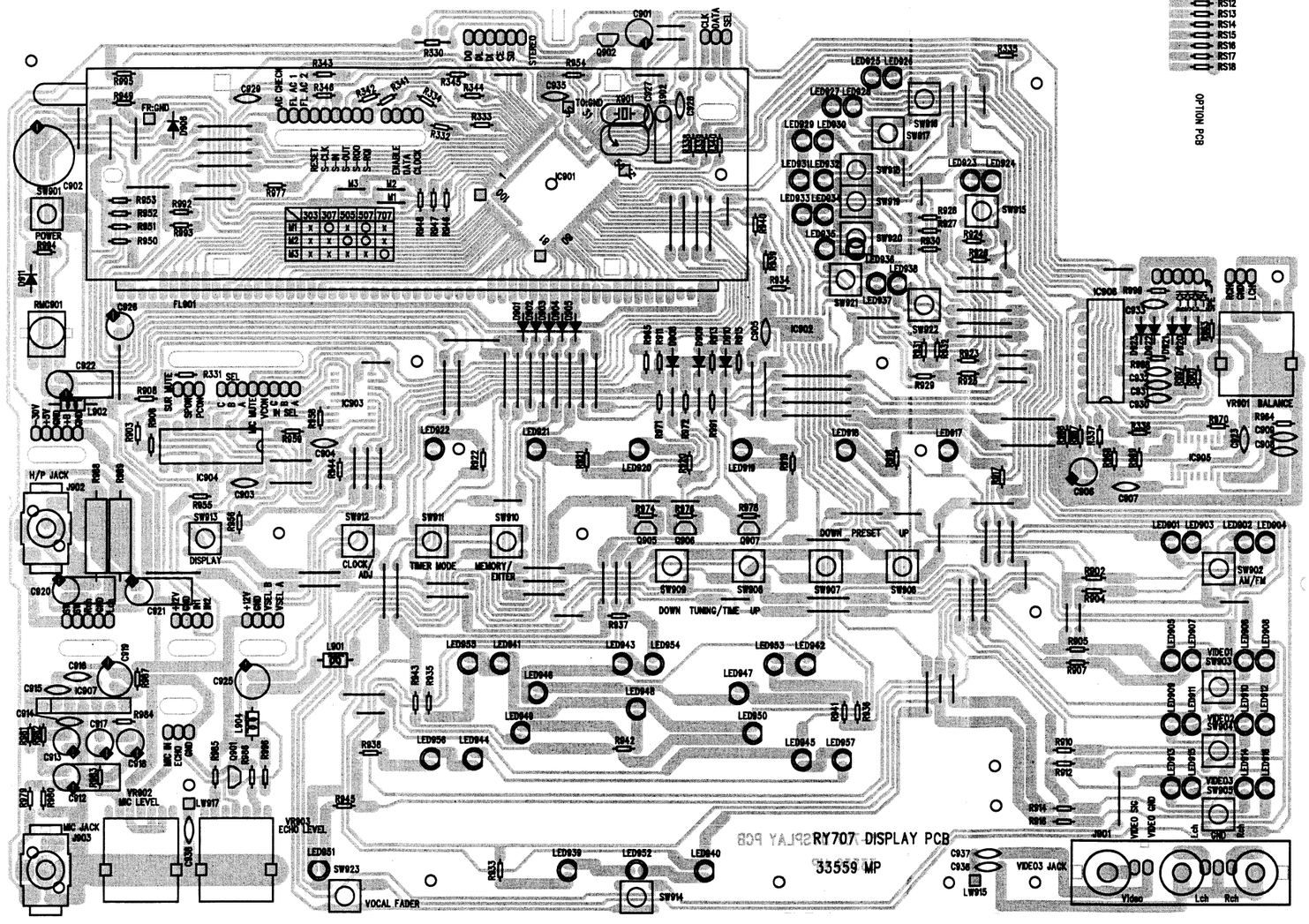
PRINTED CIRCUIT BOARD VIEWS

MAIN PCB ASS'Y



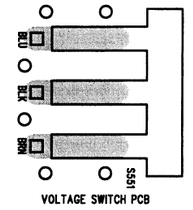
PTS-303/505/707
PTS-307/507/707

DISPLAY PCB ASS'Y

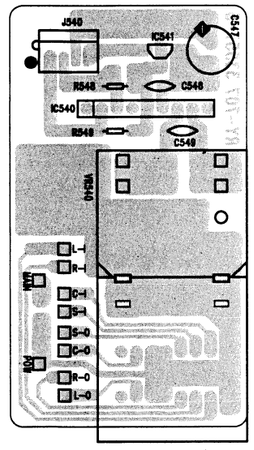


OPTION PCB

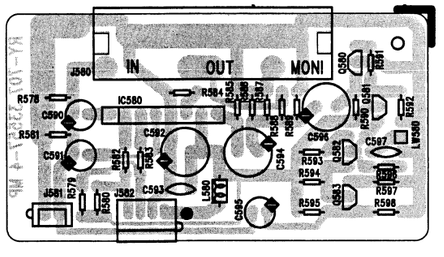
VOLTAGE SWITCH PCB ASS'Y

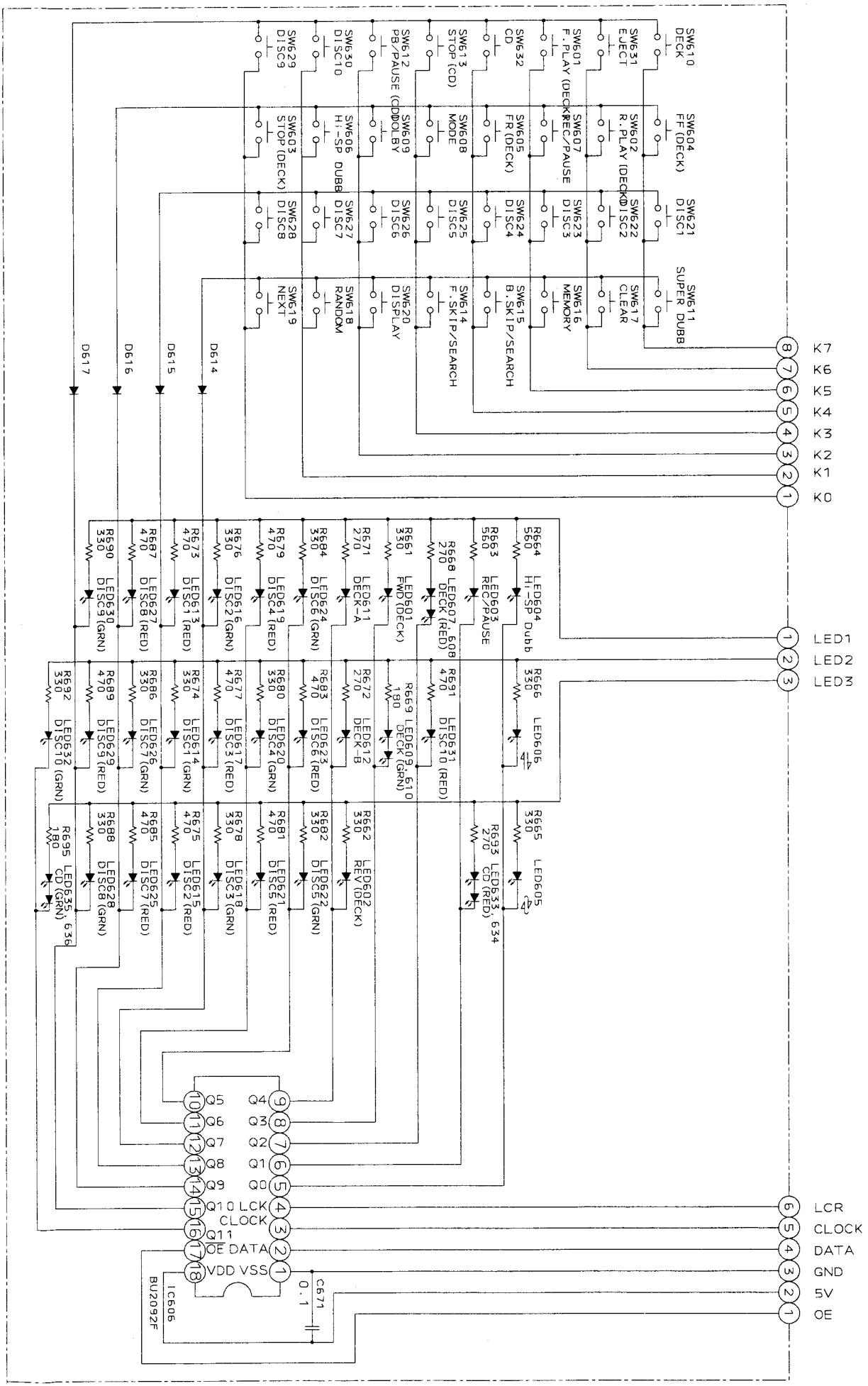


VR PCB ASS'Y



VIDEO SWITCH PCB ASS'Y




SW610 DECK
SW631 EJECT
SW601 F.PLAY (DECK)
SW632 CD
SW613 STOP (CD)
SW612 PB/PAUSE (CD)
SW630 DISC10
SW629 DISC9
SW603 STOP (DECK)
SW604 FF (DECK)
SW602 R.PLAY (DECK)
SW607 REC/PAUSE
SW605 FR (DECK)
SW608 MODE
SW609 DOLBY
SW606 HI-SP DUBB
SW619 NEXT
SW618 RANDOM
SW620 DISPLAY
SW614 F.SKIP/SEARCH
SW615 B.SKIP/SEARCH
SW616 MEMORY
SW617 CLEAR
SW611 SUPER DUBB
SW621 DISC1
SW622 DISC2
SW623 DISC3
SW624 DISC4
SW625 DISC5
SW626 DISC6
SW627 DISC7
SW628 DISC8
K7
K6
K5
K4
K3
K2
K1
K0
D617
D616
D615
D614
R664 560 LED604 HI-SP Dubb
R663 560 LED603 REC/PAUSE
R668 270 LED607, 608 DECK (RED)
R661 330 LED601 FWD (DECK)
R666 330 LED606
R691 470 LED631 DISC10 (RED)
R669 180 LED609 DECK (GRN) 610
R672 270 LED612 DECK-B
R683 470 LED623 DISC6 (RED)
R684 330 LED624 DISC6 (GRN)
R671 270 LED611 DECK-A
R679 470 LED619 DISC4 (RED)
R680 330 LED620 DISC4 (GRN)
R676 330 LED616 DISC2 (GRN)
R673 470 LED613 DISC1 (RED)
R687 470 LED627 DISC8 (RED)
R686 330 LED626 DISC7 (GRN)
R690 330 LED630 DISC9 (GRN)
R689 470 LED629 DISC9 (RED)
R692 330 LED632 DISC10 (GRN)
R674 330 LED614 DISC1 (GRN)
R675 470 LED615 DISC2 (RED)
R677 470 LED617 DISC3 (RED)
R678 330 LED618 DISC3 (GRN)
R681 470 LED621 DISC5 (RED)
R682 330 LED622 DISC5 (GRN)
R662 330 LED602 REV (DECK)
R665 330 LED605
R693 270 LED633, 634 CD (RED)
R685 470 LED625 DISC7 (RED)
R688 330 LED628 DISC8 (GRN)
R695 180 LED635, 636 CD (GRN)
LED1
LED2
LED3
Q5 Q4
Q6 Q3
Q7 Q2
Q8 Q1
Q9 Q0
Q10 LCK
CLOCK
Q11
OE DATA
VDD VSS
C671 0.1
IC606 BU2092F
LCR
CLOCK
DATA
GND
5V
OE

ONKYO CORPORATION

International Sales Div. : 31 Sankyo-bild. 3-8-5, Asakusabashi, Taito-ku, TOKYO 111, JAPAN
TEL : 03-5820-5865 FAX : 03-5820-5869

ONKYO U.S.A. CORPORATION
200 Williams Drive, Ramsey, N.J. 07446, U.S.A.
TEL : 201-825-7950 FAX : 201-825-8150

ONKYO EUROPE ELECTRONICS GmbH
Industriestrasse 18-20, 82110 Germering, GERMANY
TEL : 089 84 93 20 FAX : 089 84 93 226

ONKYO FRANCE
Immeuble Le Diamant, Domaine Technologique de Saclay, 4 Rue Rene Razel, 91892 SACLAY, FRANCE
TEL : (1) 69 33 14 00 FAX : (1) 69 41 35 84

0M3546-1 N607 Printed in Japan

Ref. No.3546-2

ONKYO® SERVICE MANUAL

Personal Theater System
FM STEREO/AM TUNER AV AMPLFIER
PTS-303/307/505/507/707
(RY-303/307/505/507/707)

PTS-303/505/707 (RY-303/505/707)	UDN	120V,60Hz U.S.A model
PTS-303/505/707 (RY-307/507/707)	UM	220V/230V-240V,50Hz Asian model

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

TABLE OF CONTENTS

SERVICE PROCEDURES 2
SPECIFICATIONS 2
ADJUSTMENT PROCEDURE 3
IC BLOCK DIAGRAMS 5
EXPLODED VIEW 14
EXPLODED VIEW PARTS LIST 15
MICROPROCESSOR CONNECTION DIAGRAM 16
TERMINAL DESCRIPTION 17
IC BLOCK DIAGRAMS 18
PRINTED CIRCUIT BOARD PARTS LIST 22
PRINTED CIRCUIT BOARD VIEWS 25
SCHEMATIC DIAGRAMS 31

ONKYO®
AUDIO COMPONENTS

SERVICE PROCEDURES

1.Safety-check out

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Connect the insulating-resistance tester between the plug of power supply cord and chassis.

Specifications : More than 10 Mohm at 500V.

2. Replacing the fuses

For continued protection against fire hazard, replace only with same type and same rating fuse.

Circuit No.	Part No.	Description
F551	4-0035-1	T2.5A/250V <D> model RY-707
	4-0039-1	T5A/250V <M> model RY-707
	4-0040-1	T4A/250V <D> model RY-303/505
F552	4-0041-1	T4A/250V <D> model RY-307/507
	4-0042-1	T2.5A/250V <D> model RY-303/505/707
	4-0043-1	T2.5A/250V <M> model RY-307/707

NOTE: <D> 120V model only
<M> Asian model only

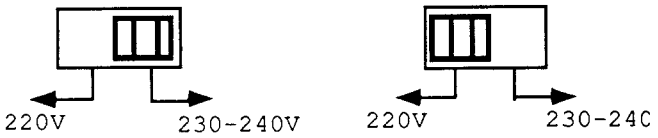
3. Voltage Selector (Rear Panel)

Asian model are equipped with a voltage selector to conform to local power supplied.

Be sure to set this switch to match the voltage of the power supply in your area before plugging in the unit.

Models without a voltage selector can only be used in area where the power supply is the same as that of the unit.

VOLTAGE SELECTOR



at AC 230-240V at AC 220V

Setting the voltage selector

1. Determine the proper for voltage for your area : 230-240V or 220V.
2. If the preset voltage is not proper for your area, insert a screwdriver into the groove in the switch. Slide the switch all the way to the right (230-240V) or to the left (220V), which-ever is proper.

SPECIFICATIONS

Amplifier Section

Power Output:

Front:	70W x 2 at 8 ohm from 40 Hz to 15 kHz with no more than 0.9% THD (model: RY-707)
	50W x 2 at 8 ohm from 40 Hz to 15 kHz with no more than 0.9% THD (models: RY-303, 307, 505, 507)
Center:	30W (3.0% THD, 1 kHz, 8 ohm) (model: RY-707)
	20W (3.0% THD, 1 kHz, 8 ohm) (models: RY-505, 507)
Surround:	15W x 2 (3.0% THD, 1 kHz, 16 ohm) (model: RY-707)
	10W x 2 (3.0% THD, 1 kHz, 16 ohm) (models: RY-505, 507)
S/N:	89 dB (IHF-A)

FM Section

Tuning Range:	87.9 - 107.9 MHz (U.S.A. and Canadian models)
	87.5 - 108.0 MHz (Asian models)
	(Asian models: 50 kHz step U.S.A. and Canadian models: 200 kHz step)

AM Section

Tuning Range:	520 - 1710 kHz, 10 kHz step (U.S.A. and Canadian models)
	522 - 1620 kHz, 9 kHz step (Asian models)

General

Power Requirement:	120V AC, 60 Hz (U.S.A. and Canadian models)
	220/230 - 240V AC, 50/60 Hz (Asian models)
Dimensions:	Tuner/Amplifier unit
(W x H x D)	270 x185 x 322 mm (10-5/8 x 7-5/16 x 12-11/16 in.)

ADJUSTMENT PROCEDURES

Equipment required:
1. AM signal generator
2. FM signal generator
3. VTVM
4. DC voltmeter
5. FM/AM IF sweep generator
6. Oscilloscope

Notes:
1. Signal input must be as low as possible to avoid overload and clipping. (Use highest sensitivity of output indicator.)
2. Volume control at maximum.
3. Standard modulation is 400Hz at 30% amplitude for AM, 1000Hz at 22.5kHz deviation for FM (Mono).
4. Connect 8 ohm load acros speaker terminal.

AM IF Adjustment

Signal Source	Signal Generator Frequency	Output	Frequency Setting	Adjustment	Remarks
AM IF sweep generator connected to AM antenna.	Sweep centered 450kHz	Oscilloscope connected to pin 18 of IC1.	1000 kHz	IFT 2	Adjust for maximum & symmetrical curve.
	520kHz (522kHz)	DC voltmeter to TP VCO	520kHz (522kHz)	L32	DC voltmeter 0.8V±0.05V
AM signal generator connected to AM antenna.	610kHz (612 kHz)	VTVM connected to speaker terminal	610kHz (612kHz)	L31	Adjust for maximum output
	1400kHz (1404kHz)		1400kHz (1404kHz)	TC1	
	Repeat adjustments as necessary to minimise tracking error.				

FM IF Adjustment

Signal Source	Signal Generator Frequency	Output	Frequency Setting	Adjustment	Remarks
FM IF sweep generator connected to FM antenna.	Sweep centered 10.7MHz	Oscilloscope connected to pin 18 of IC1.	98MHz	IFT 1 on the front end	Adjust for maximum & symmetrical curve.

FM RF Adjustment

Signal Source	Signal Generator Frequency	Output	Frequency Setting	Adjustment	Remarks
FM signal generator connected to FM antenna.	87.5MHz 60dB	DC voltmeter to TP VCO	87.9MHz (87.5MHz)	L10	DC meter to indicate 2.2V±0.05V
	98MHz	VTVM connected to speaker terminal.	98MHz	L3, L17, L19 on the front end	Adjust for maximum output

1. Preparations

1) Place the unit on the workbench. (There should be about 15 mm of space between the base plate of the unit and the work surface.)
2) Set up the unit as follows.
   (1) No load
   (2) No signal
   (3) Volume turned all the way down
   (4) Speaker switch OFF
   (5) Power switch OFF

   Note) Check the following points before making adjustments
   (1) The power switch should be OFF.
   (2) The interior of the unit should not be warm.

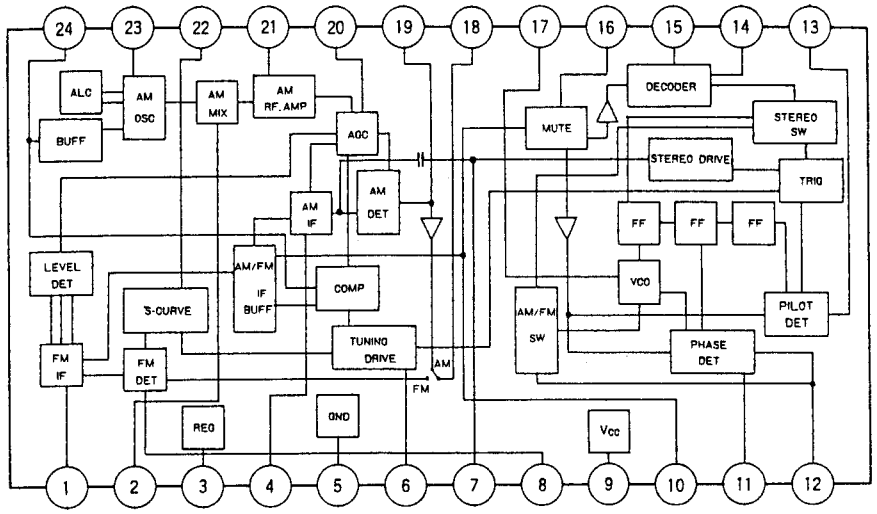
2. Idling current adjustment

1) Turn the power switch ON and allow the unit to warm up for about 10 minutes.
   (1) Adjust VR370(VR470) so that the voltage at test point R383 (R483) on the power amp transistor pc circuit board is 13mV±2mV.

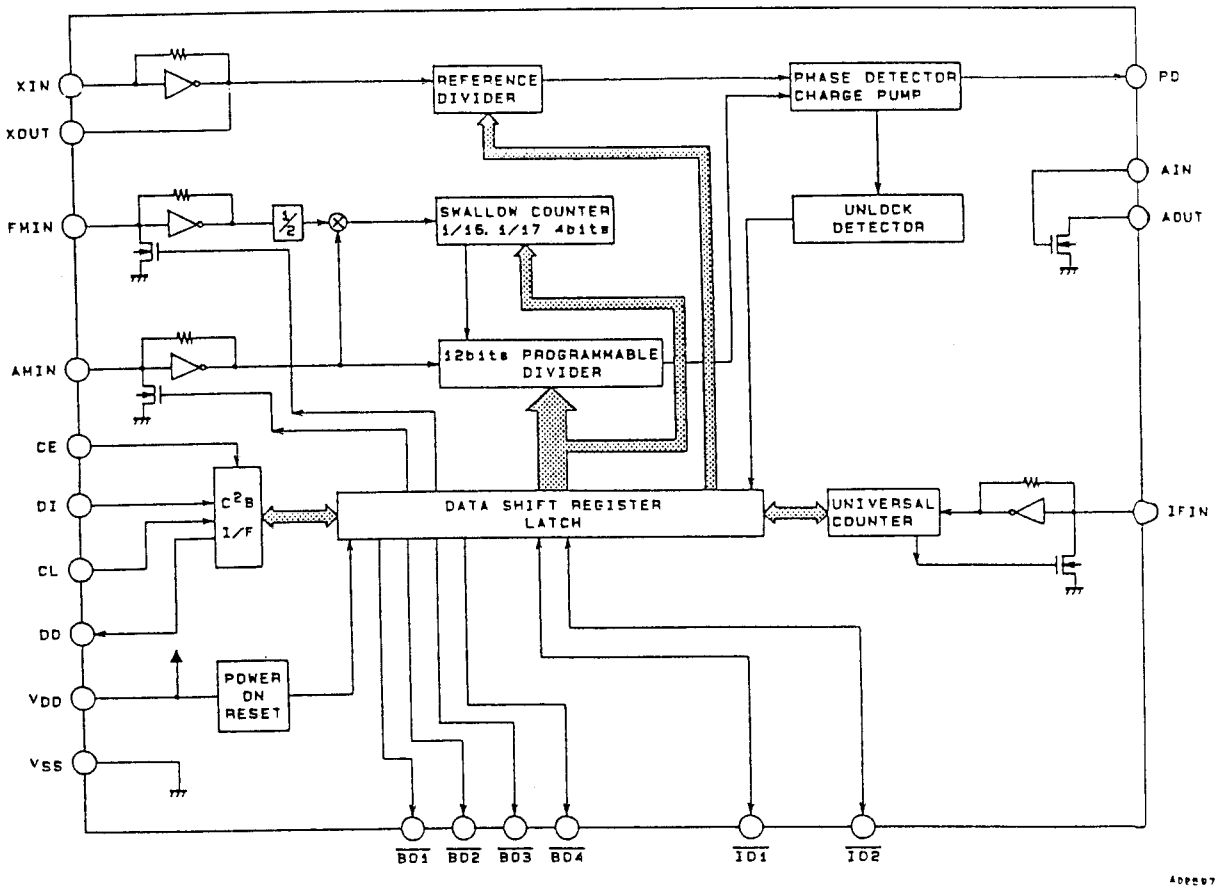
   NOTE) Semi-fixed resistors enclosed in parentheses ( ) are for the right channel.

IC BLOCK DIAGRAMS

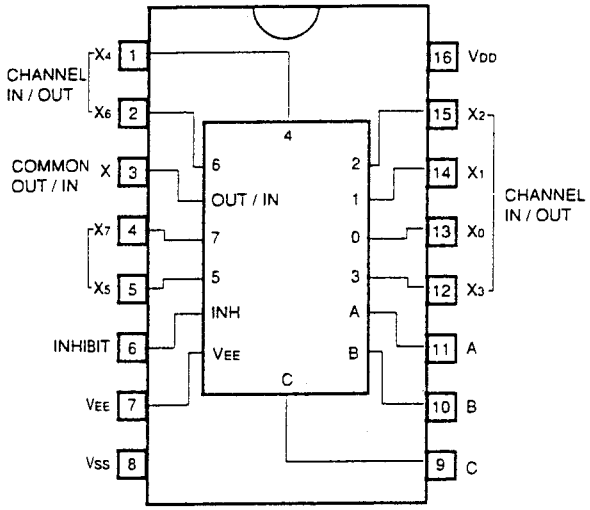
IC1:LA1832 (AM/FM IF MPX)



IC2: LA72131 (PLL)



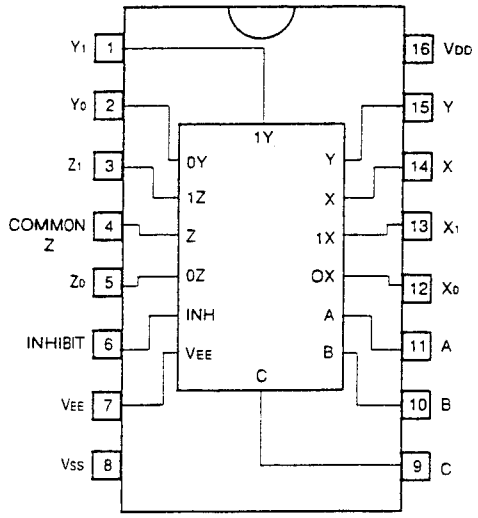
IC101,IC201: BU4051 (INPUT SELECTOR)



INHIBIT	A	B	C	ON SWITCH
L	L	L	L	X0
L	H	L	L	X1
L	L	H	L	X2
L	H	H	L	X3
L	L	L	H	X4
L	H	L	H	X5
L	L	H	H	X6
L	H	H	H	X7
H	X	X	X	NONE

X : Don't Care

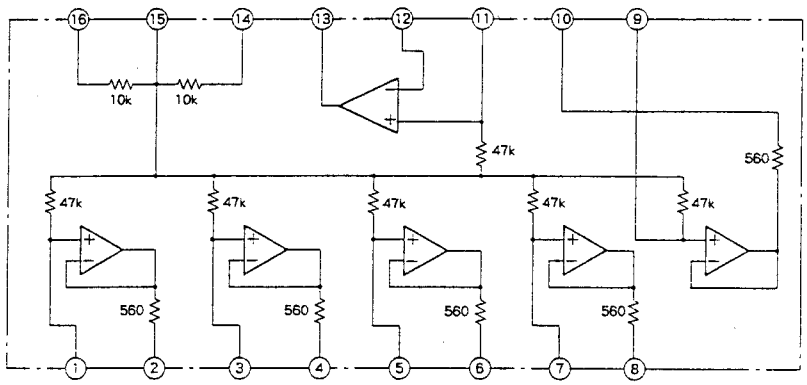
IC102,IC202: BU4053 (INPUT SELECTOR)



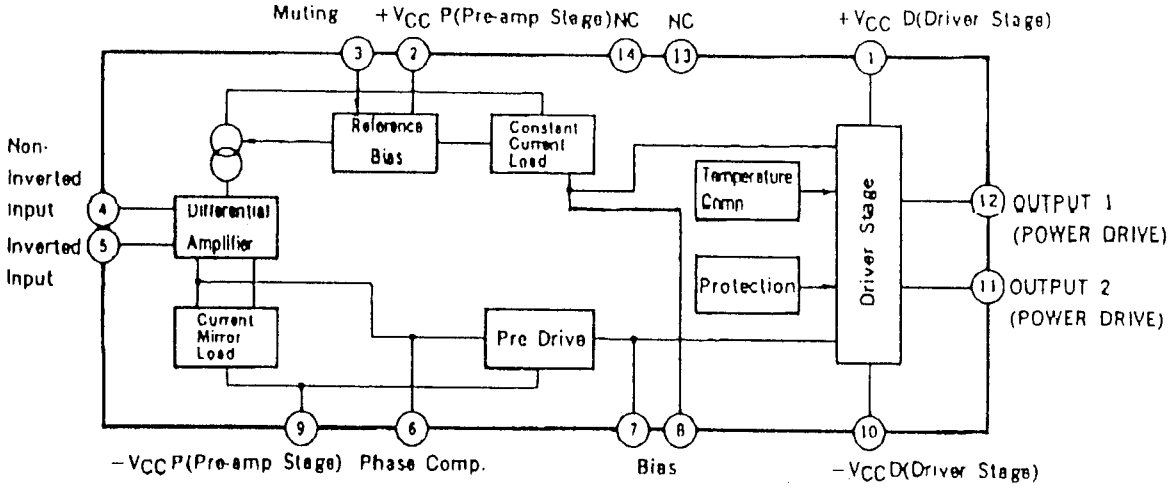
INHIBIT	A	B	C	ON SWITCH
L	L	L	L	X_0 Y_0 Z_0
L	H	L	L	X_1 Y_0 Z_0
L	L	H	L	X_0 Y_1 Z_0
L	H	H	L	X_1 Y_1 Z_0
L	L	L	H	X_0 Y_0 Z_1
L	H	L	H	X_1 Y_0 Z_1
L	L	H	H	X_0 Y_1 Z_1
L	H	H	H	X_1 Y_1 Z_1
H	X	X	X	NONE

X : Don't Care

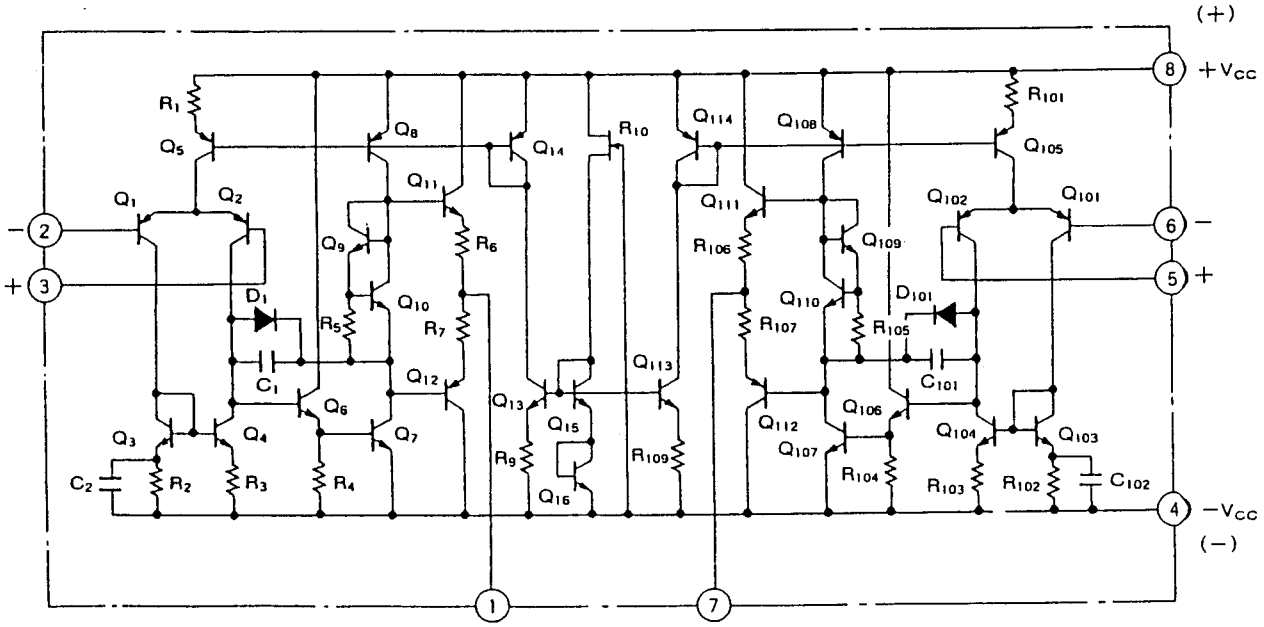
IC103,IC203: M5227P (GRAPHIC EQUALIZER)



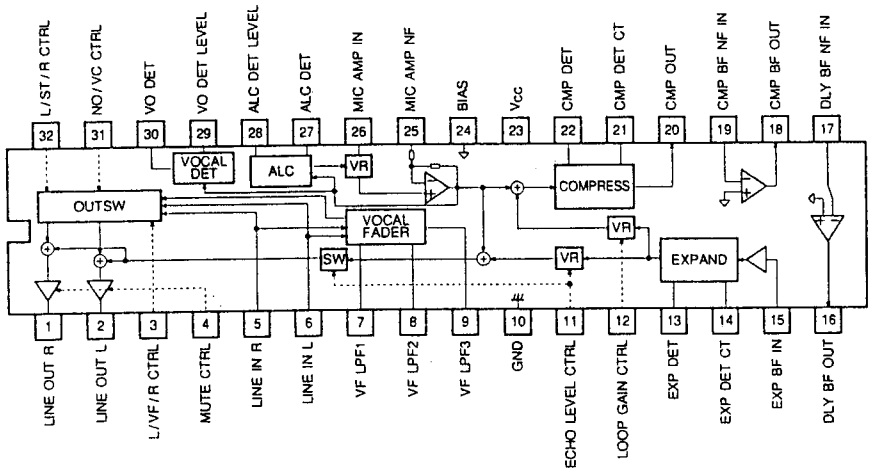
IC370, IC470: μPC 12987V (PRE-AMP)



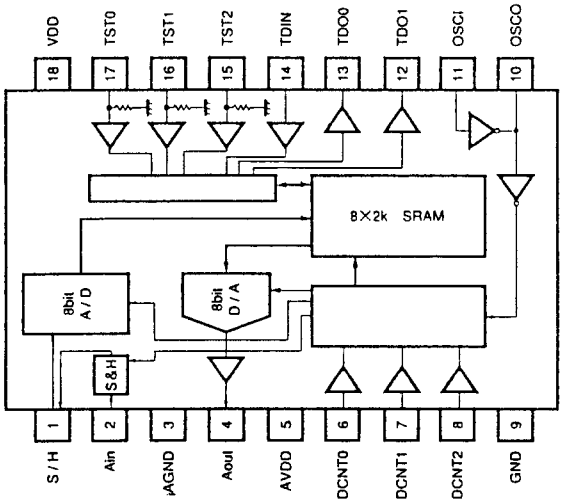
IC390, IC507, IC508, IC510, IC511:M5218L (OPE-AMP)



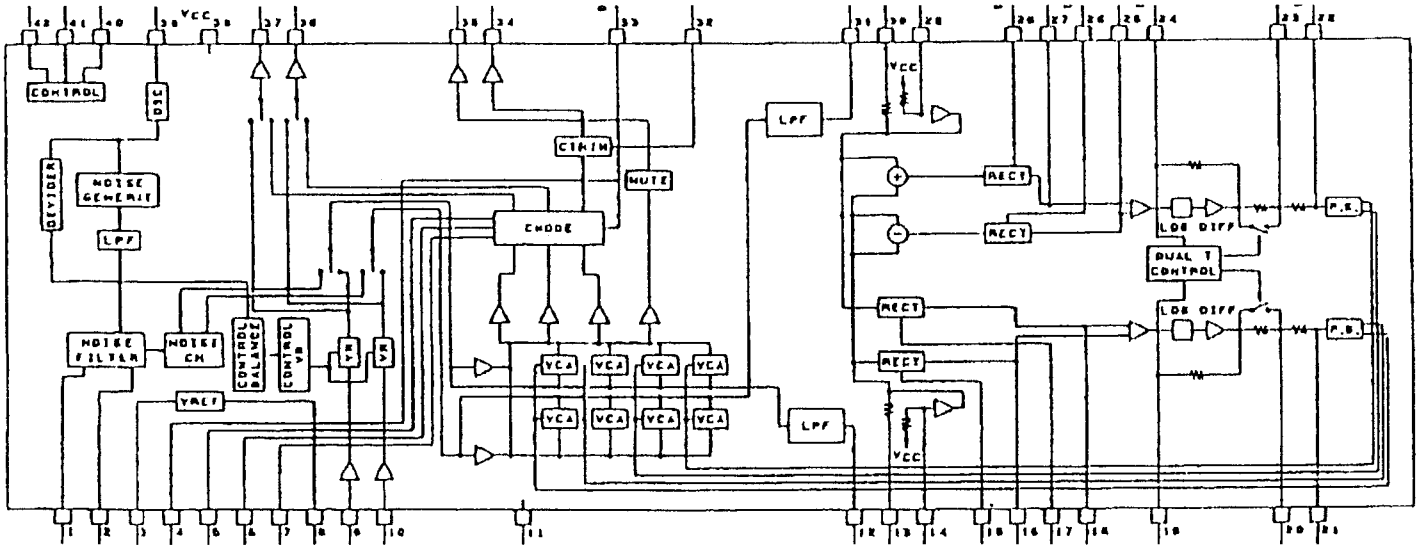
IC501: BA7726AS (KARAOKE ANALOG CONPAND W/VOCAL FADER)



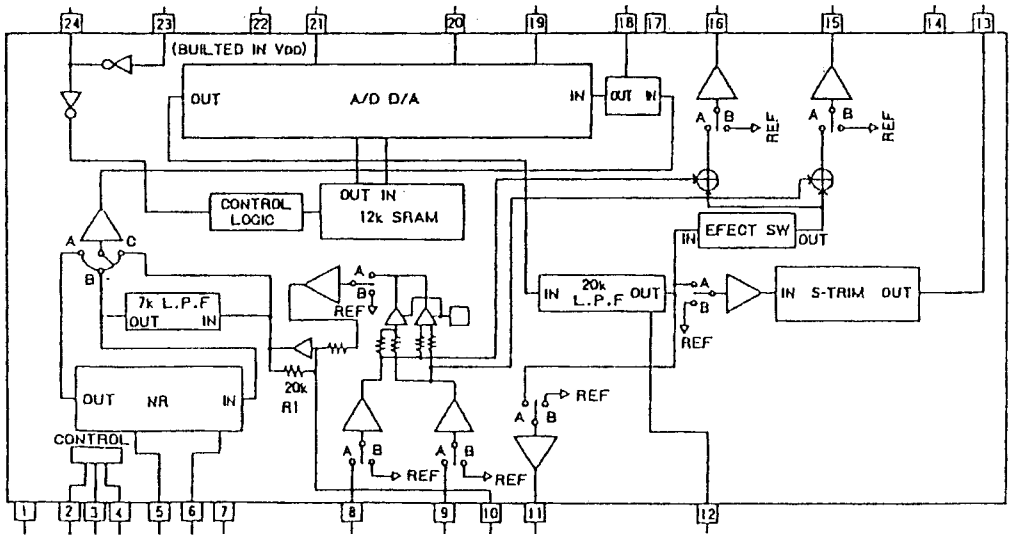
IC502: BU9252S (KARAOKE ECHO)



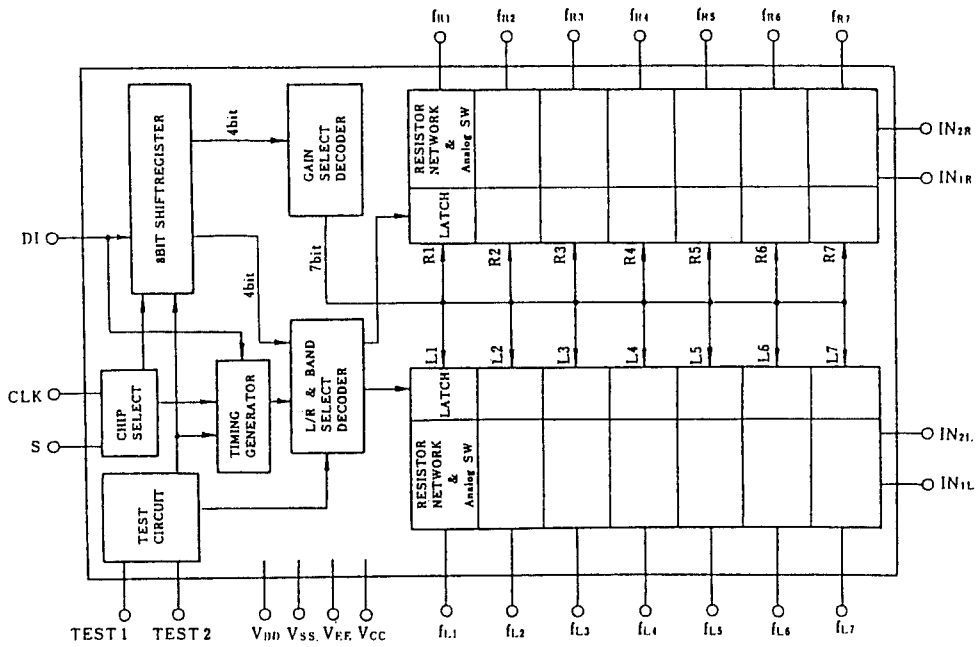
IC503: LA2785 (DOLBY PROLOGIC SURROUND MATRIX DECODER)



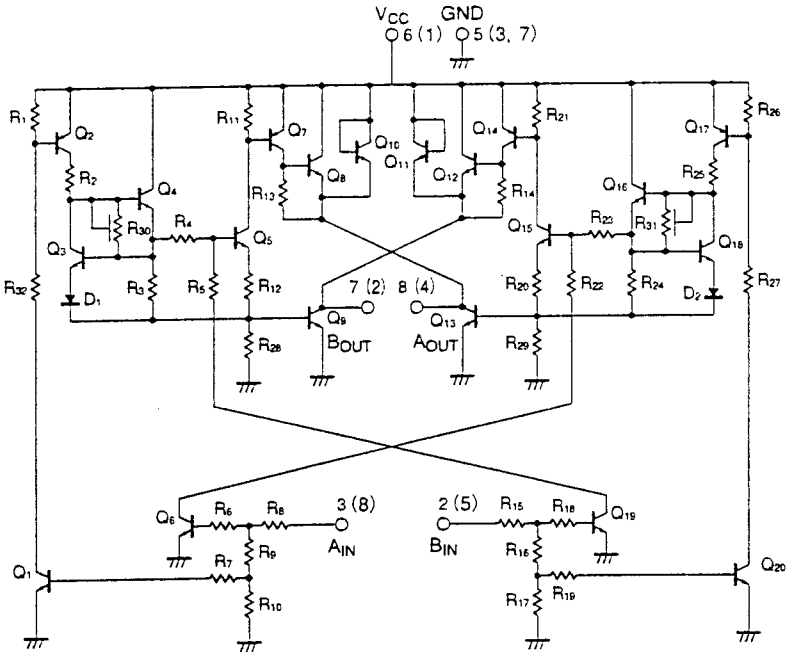
IC504: LV1011 (DOLBY SURROUND PASSIVE DECODER)



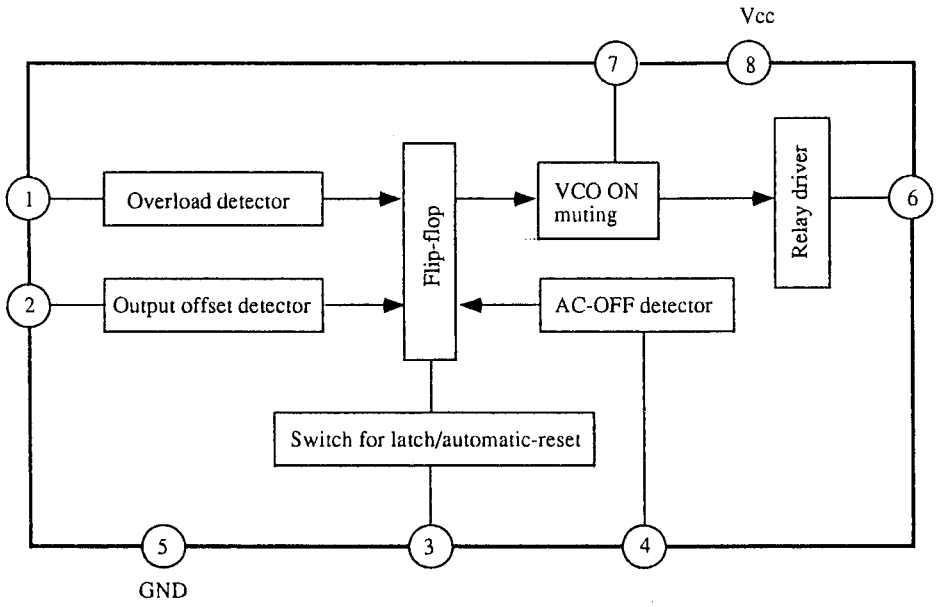
IC506: NJU7305L (GRAPHIC EQUALIZER ELECTRO VOLUME)



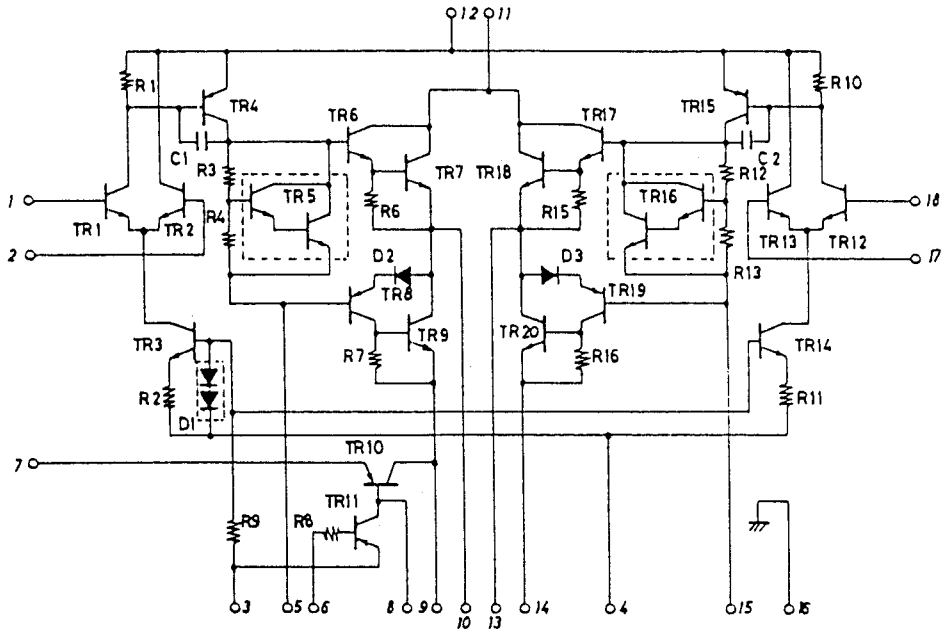
IC540: BA6208 (VOLUME MOTOR DRIVER)



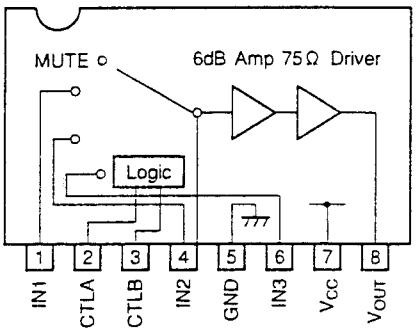
IC551: μPC1237HA (SPEAKER RELAY DRIVER)



IC552: STK4132II (POWER AMP)

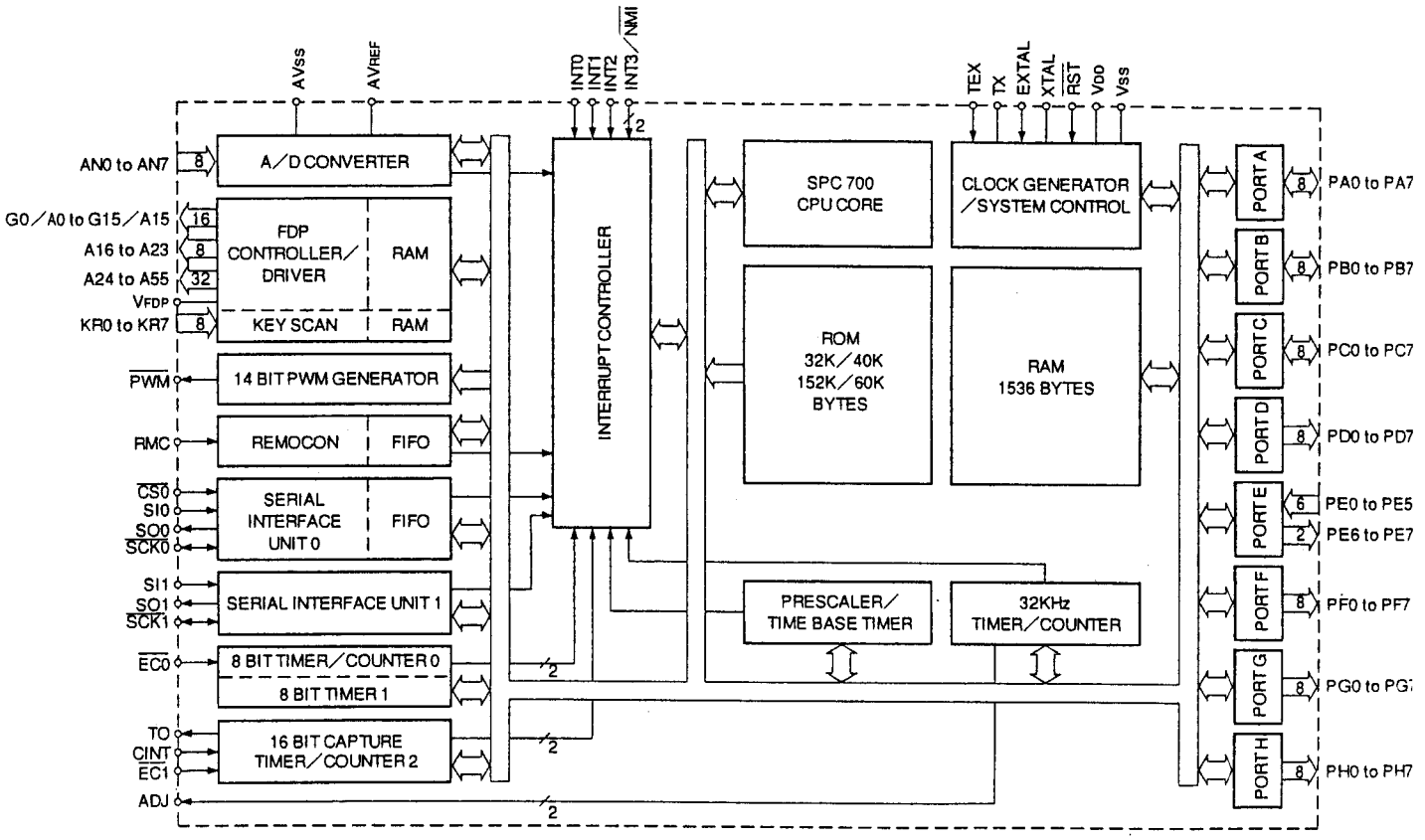


IC580: BA7612N (VIDEO INPUT SELECTOR)



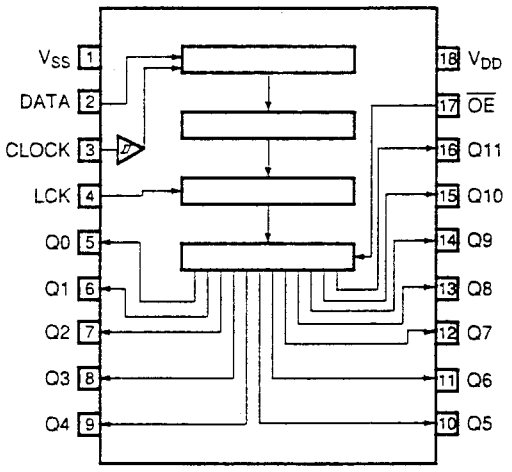
CTL - A	CTL - B	OUT
L (OPEN)	L (OPEN)	IN1
L (OPEN)	H	IN2
H	L (OPEN)	IN3
H	H	MUTE

IC901: CXP82840 (MAIN MICROPROCESSOR)

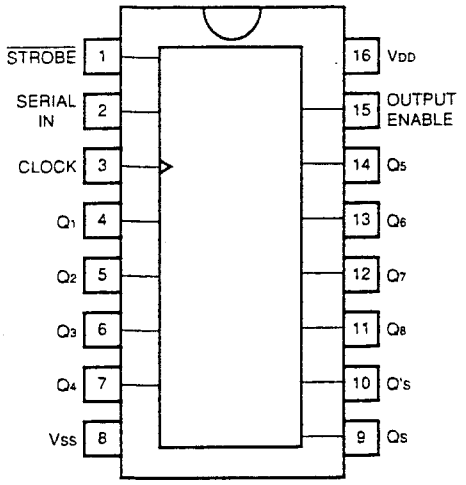


IC902: BU2092 (GRAPHIC EQUALIZER LED DRIVER)

IC903: BU2092 (SELECTOR DRIVER)



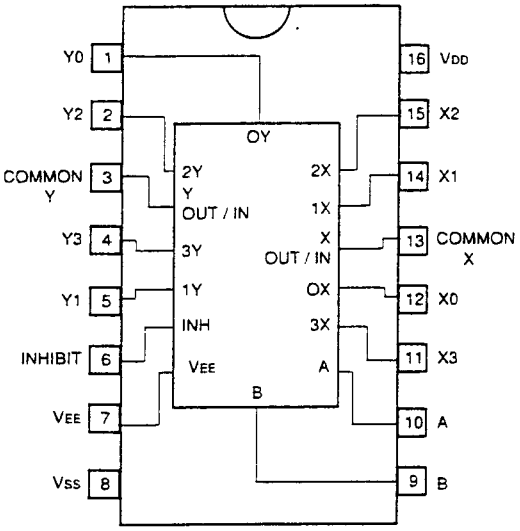
IC904: BU4094BC (SELECTOR DRIVER)



CLOCK	OUTPUT ENABLE	$\overline{\text{STROBE}}$	SERIAL IN	Parallel Output		Serial Output	
				Q_1	Q_n	Q_S	Q'_S
↓	H	H	L	L	Q_{n-1}	Q_7	NC
↓	H	H	H	H	Q_{n-1}	Q_7	NC
↓	H	L	X	NC	NC	Q_7	NC
↓	L	X	X	Z	Z	Q_7	NC
↑	H	X	X	NC	NC	NC	Q_S
↑	L	X	X	Z	Z	NC	Q_S

NC : No Change Z : High Impedance X : Don't Care

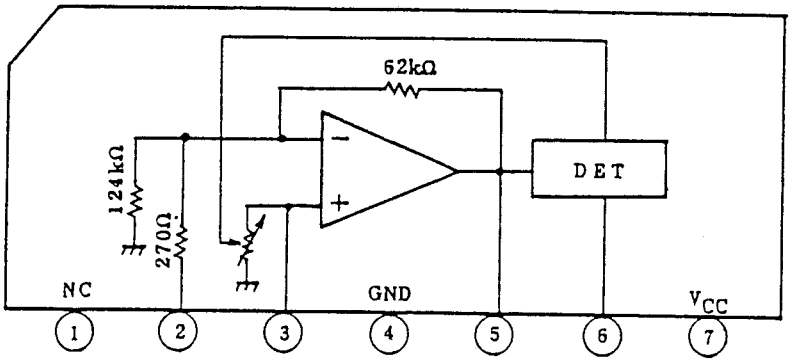
IC906: BU4052BC (INPUT SELECTOR)



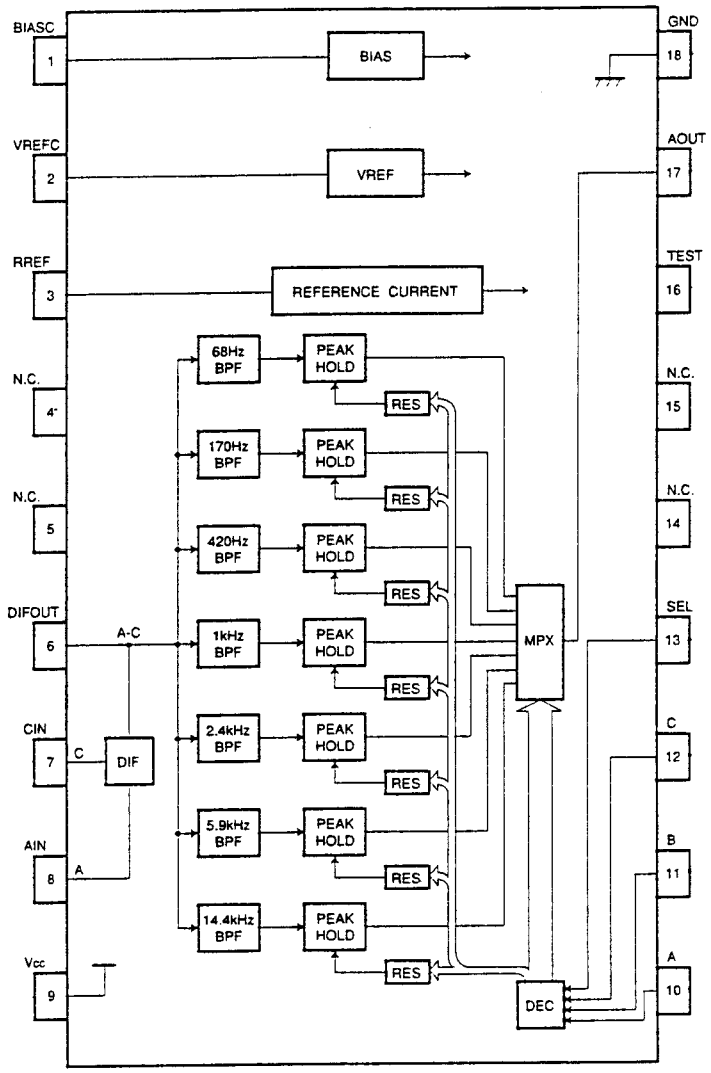
INHIBIT	A	B	ON SWITCH
L	L	L	X_0 Y_0
L	H	L	X_1 Y_1
L	L	H	X_2 Y_2
L	H	H	X_3 Y_3
H	X	X	NONE

X : Don't Care

IC907: TA2011S (MIC AMP)

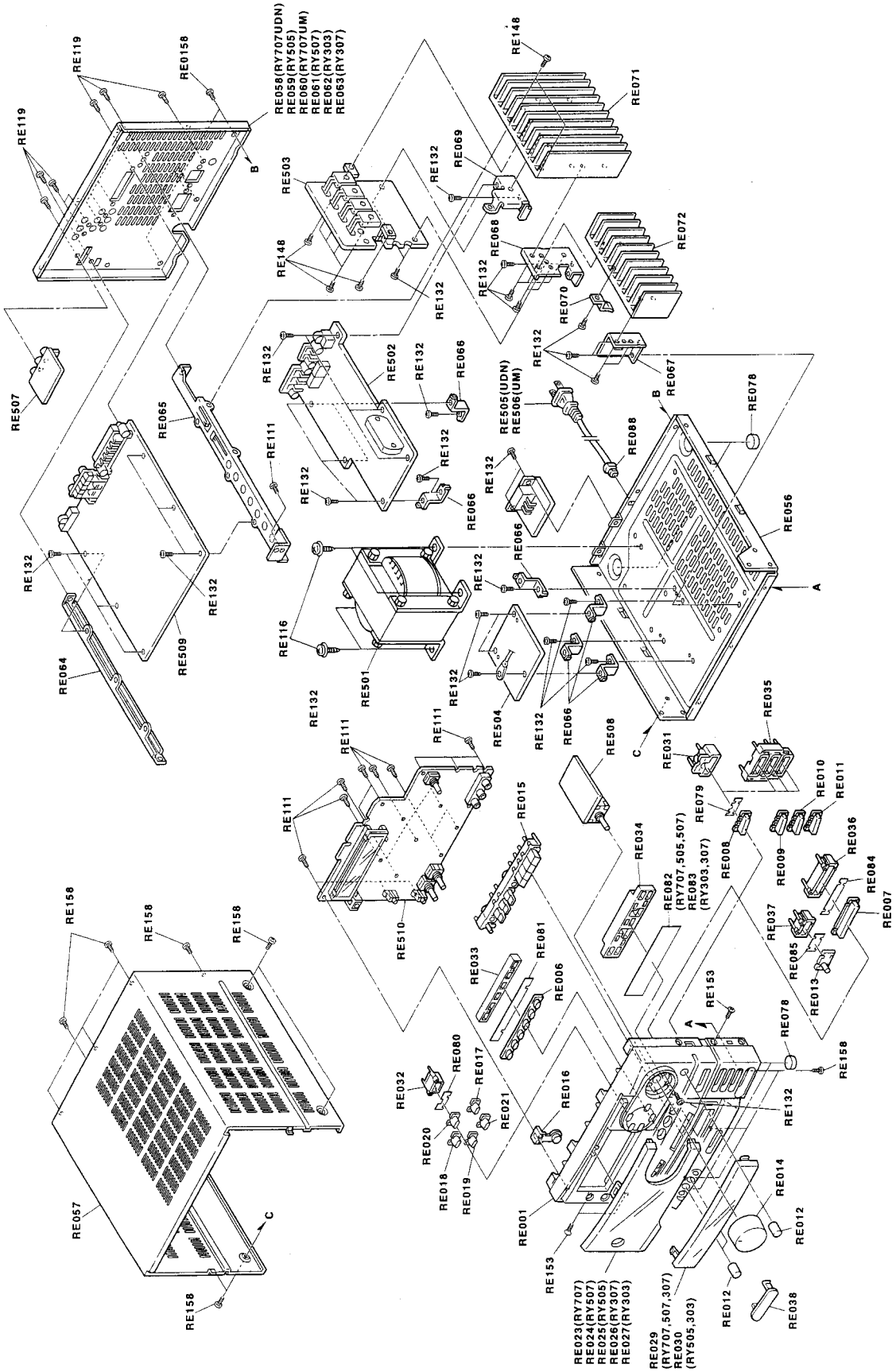


IC905: BA3834F (SPECTRAL ANALYZE BAND PASS FILTER)



SEL	A	B	C	AOUT
0	X	X	X	GND
1	0	0	0	GND
1	0	0	1	68Hz
1	0	1	0	170Hz
1	0	1	1	420Hz
1	1	0	0	1kHz
1	1	0	1	2.4kHz
1	1	1	0	5.9KHz
1	1	1	1	14.4kHz

EXPLODED VIEW



Personal Theater System

MODEL : PTS-303/307/505/507/707

FM STEREO/AM TUNER AV AMPLIFIER

(RY-303/305/505/507/707)

CASSETTE TAPE DECK COMPACT DISC PLAYER

(KCY-707)

EXPLODED VIEW PARTS LIST (P. C. BOARD)

REF. NO.	PART NO.	DESCRIPTION
MODEL: PTS-307 (RY-307/KCY707) <Asian model>		
RE502	Z250572307UM1	POWER AMP PCB ASS'Y (RY-307)
RE503	Z250572307UM2	POWER AMP TRANSISTOR PCB ASS'Y (RY-307)
RE504	Z250572307UM3	AC PCB ASS'Y (RY-307)
RE507	Z250572307UM4	VIDEO SWITCH PCB ASS'Y (RY-307)
RE508	Z250572307UM5	VR PCB ASS'Y (RY-307)
RE509	Z250578307UM	MAIN PCB ASS'Y (RY-307)
RE510	Z250574307UM	DISPLAY PCB ASS'Y (RY-307)
CD505	Z250576707CD	MAIN PCB ASS'Y (KCY-707)
CD560	Z250575707KEY	KEY CONTROL ASS'Y (KCY-707)

MODEL: PTS-507 (RY-507/KCY707) <Asian model>		
RE502	Z250572507UM1	POWER AMP PCB ASS'Y (RY-507)
RE503	Z250572507UM2	POWER AMP TRANSISTOR PCB ASS'Y (RY-507)
RE504	Z250572507UM3	AC PCB ASS'Y (RY-507)
RE507	Z250572507UM4	VIDEO SWITCH PCB ASS'Y (RY-507)
RE508	Z250572507UM5	VR PCB ASS'Y (RY-507)
RE509	Z250578507UM	MAIN PCB ASS'Y (RY-507)
RE510	Z250574507UM	DISPLAY PCB ASS'Y (RY-507)
CD505	Z250576707CD	MAIN PCB ASS'Y (KCY-707)
CD560	Z250575707KEY	KEY CONTROL ASS'Y (KCY-707)

MODEL: PTS-707 (RY-707/KCY707) <Asian model>		
RE502	Z250572707UM1	POWER AMP PCB ASS'Y (RY-707)
RE503	Z250572707UM2	POWER AMP TRANSISTOR PCB ASS'Y (RY-707)
RE504	Z250572707UM3	AC PCB ASS'Y (RY-707)
RE507	Z250572707UM4	VIDEO SWITCH PCB ASS'Y (RY-707)
RE508	Z250572707UM5	VR PCB ASS'Y (RY-707)
RE509	Z2505787UD/UM	MAIN PCB ASS'Y (RY-707)
RE510	Z2505747UD/UM	DISPLAY PCB ASS'Y (RY-707)
CD505	Z250576707CD	MAIN PCB ASS'Y (KCY-707)
CD560	Z250575707KEY	KEY CONTROL ASS'Y (KCY-707)

MODEL: PTS-303 (RY-303/KCY707) <120V model>		
RE502	Z250572303UD1	POWER AMP PCB ASS'Y (RY-303)
RE503	Z250572303UD2	POWER AMP TRANSISTOR PCB ASS'Y (RY-303)
RE504	Z250572303UD3	AC PCB ASS'Y (RY-303)
RE507	Z250572303UD4	VIDEO SWITCH PCB ASS'Y (RY-303)
RE508	Z250572303UD5	VR PCB ASS'Y (RY-303)
RE509	Z250578303UD	MAIN PCB ASS'Y (RY-303)
RE510	Z250574303UD	DISPLAY PCB ASS'Y (RY-303)
CD505	Z250576707CD	MAIN PCB ASS'Y (KCY-707)
CD560	Z250575707KEY	KEY CONTROL ASS'Y (KCY-707)

REF. NO.	PART NO.	DESCRIPTION
MODEL: PTS-505 (RY-505/KCY707) <120V model>		
RE502	Z250572505UD1	POWER AMP PCB ASS'Y (RY-505)
RE503	Z250572505UD2	POWER AMP TRANSISTOR PCB ASS'Y (RY-505)
RE504	Z250572505UD3	AC PCB ASS'Y (RY-505)
RE507	Z250572505UD4	VIDEO SWITCH PCB ASS'Y (RY-505)
RE508	Z250572505UD5	VR PCB ASS'Y (RY-505)
RE509	Z250578505UD	MAIN PCB ASS'Y (RY-505)
RE510	Z250574505UD	DISPLAY PCB ASS'Y (RY-505)
CD505	Z250576707CD	MAIN PCB ASS'Y (KCY-707)
CD560	Z250575707KEY	KEY CONTROL ASS'Y (KCY-707)

MODEL: PTS-707 (RY-707/KCY707) <120V model>		
RE502	Z250572707UD1	POWER AMP PCB ASS'Y (RY-707)
RE503	Z250572707UD2	POWER AMP TRANSISTOR PCB ASS'Y (RY-707)
RE504	Z250572707UD3	AC PCB ASS'Y (RY-707)
RE507	Z250572707UD4	VIDEO SWITCH PCB ASS'Y (RY-707)
RE508	Z250572707UD5	VR PCB ASS'Y (RY-707)
RE509	Z2505787UD/UM	MAIN PCB ASS'Y (RY-707)
RE510	Z2505747UD/UM	DISPLAY PCB ASS'Y (RY-707)
CD505	Z250576707CD	MAIN PCB ASS'Y (KCY-707)
CD560	Z250575707KEY	KEY CONTROL ASS'Y (KCY-707)

EXPLODED VIEW PARTS LIST

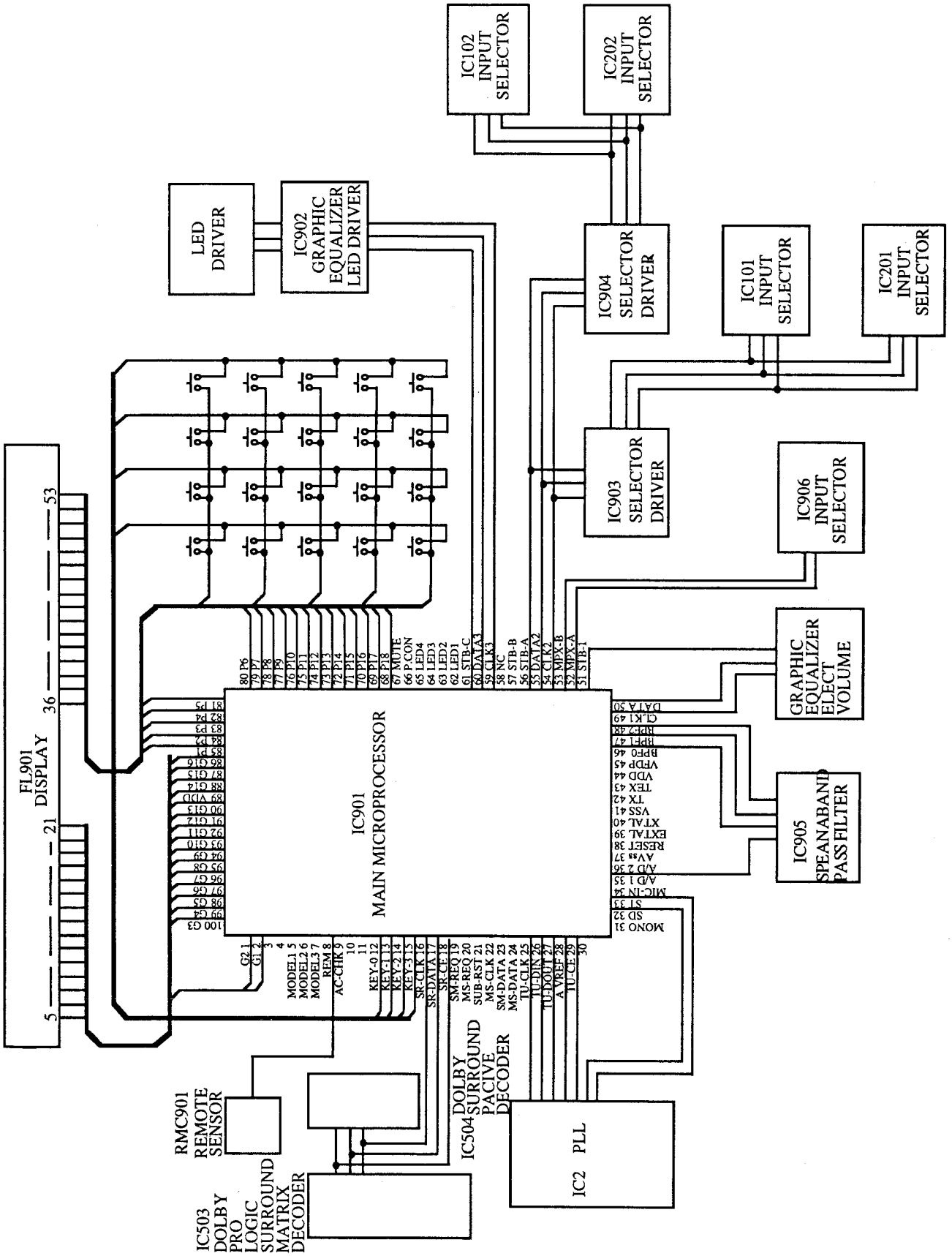
EXPLODED VIEW PARTS LIST (AMP/TUNER BLOCK)

Ref. No.	Part No.	Description
RE001	10-3437010101	FRONT PANEL (B) (RY-707 <D><M>)
RE001	10-3437020201	FRONT PANEL (C) (RY-505 <D>)
RE001	10-3437030201	FRONT PANEL (C) (RY-507 <M>)
RE001	10-3437040301	FRONT PANEL (D) (RY-303 <D>)
RE001	10-3437050301	FRONT PANEL (D) (RY-307 <M>)
RE006	10-3444010101	LIGHT GUIDE (C)
RE007	10-3447010101	DTX BUTTON
RE006	10-3446030101	FUNCTION BUTTON
RE006	10-3446040101	FUNCTION BUTTON
RE006	10-3446050101	FUNCTION BUTTON
RE006	10-3446060101	FUNCTION BUTTON
RE012	10-3441010101	ROTARY KNOB
RE013	10-3465010101	VOCAL FADER BUTTON (RY-307/507/707 <M>)(RY-707<D>)
RE014	10-3440010101	VOLUME KNOB
RE015	10-3445010101	TUNER BUTTON
RE016	10-3442010101	POWER BUTTON
RE017	10-3443010101	SOUND BUTTON
RE018	10-3443020101	SOUND BUTTON (RY-505,707 <D>)(RY-507/707 <M>)
RE019	10-3443030101	SOUND BUTTON (RY-505,707 <D>)(RY-507/707 <M>)
RE020	10-3443040101	SOUND BUTTON
RE021	10-3443050101	SOUND BUTTON (RY-707 <D><M>)
RE022	10-3443060101	SOUND BUTTON (RY-303 <D>)(RY-307<M>)
RE023	10-3438010101	DISPLAY WINDOW (A) (RY-707 <D><M>)
RE024	10-3438020101	DISPLAY WINDOW (A) (RY-507 <M>)
RE025	10-3438030101	DISPLAY WINDOW (A) (RY-505 <D>)
RE026	10-3438040101	DISPLAY WINDOW (A) (RY-307 <M>)
RE027	10-3438050101	DISPLAY WINDOW (A) (RY-303 <D>)
RE029	10-3439010101	DISPLAY WINDOW (B) (RY-307/507/707 <M>)(RY-707 <D>)
RE030	10-3439020101	DISPLAY WINDOW (B) (RY303/505 <D>)
RE031	10-3492010101	LED BOX (C)
RE032	10-3450010101	LED BOX (D)
RE033	10-3451010101	LED BOX (E)
RE034	10-3452010101	LED BOX (F)
RE035	10-3453010101	LED BOX (G)
RE036	10-3454010101	LED BOX (H)
RE037	10-3455010101	LED BOX (I) (RY-307/507/707 <M>) (RY-707 <D>)
RE038	10-3581010101	MASK PLATE (RY-303/505 <D>)
RE056	20-1113010101	BOTTOM COVER (B)
RE057	20-1112010101	TOP COVER (B)
RE058	20-1144010101	REAR COVER (B) (RY-707 <D>)
RE058	20-1144020101	REAR COVER (B) (RY-505 <D>)
RE058	20-1114010101	REAR COVER (C) (RY-707 <M>)
RE058	20-1114020101	REAR COVER (C) (RY-507 <M>)
RE058	20-1145010101	REAR COVER (D) (RY-303 <D>)
RE058	20-1146010101	REAR COVER (E) (RY-307 <M>)
RE064	20-1115010101	PCB BRACKET(A)
RE065	20-1117010101	PCB BRACKET(C)
RE066	20-1118010101	PCB BRACKET(D)

Ref. No.	Part No.	Description
RE067	20-1119010101	HEAT SINK BRACKET(A) (RY-505/707 <D>)(RY-507/707<M>)
RE068	20-1120010101	HEAT SINK BRACKET(B)
RE069	20-1123010101	HEAT SINK BRACKET(C) (RY-707 <D><M>)
RE070	20-1122010101	IC HOLDER (RY-505/707 <D>(RY-507/707 <M>)
RE071	20-1131010101	HEAT SINK (A) (RY-707 <D><M>)
RE072	20-1131010101	HEAT SINK (B) (RY-505/707 <D>)(RY-507/707 <M>)
RE073	20-1169010101	HEAT SINK (E) (RY-303/505 <D>)(RY-307/507 <M>)
RE075	20-1179010101	HEAT SINK BRACKET(D) (RY-303/505 <D>)(RY-307/507 <M>)
RE078	30-0756010101	FOOT RUBBER
RE079	10-3496010101	LED FILTER (C)
RE080	10-3457010101	LED FILTER (D)
RE081	10-3458010101	LED FILTER (E)
RE082	10-3459010101	LED FILTER (F) (RY-505/707 <D>)(RY-507/707 <M>)
RE083	10-3459020101	LED FILTER (F) (RY-303 <D>)(RY-307 <M>)
RE084	10-3460010101	LED FILTER (G)
RE085	10-3462010101	LED FILTER (I) (RY-307/507/707 <M>)(RY-707 <D>)
RE088	10-3464010101	STRAIN RELIEF BUSHING
RE501	9-0307-1	POWER TRANS EI 120V UL/CSA (RY-303 <D>)
RE501	9-0309-1	POWER TRANS EI 220V/230-240V ASIA (RY-307 <M>)
RE501	9-0308-1	POWER TRANS EI 120V UL/CSA (RY-707 <D>)
RE501	9-0310-1	POWER TRANS EI 220V/230-240V ASIA (RY-707 <M>)
RE501	9-0314-1	POWER TRANS EI 120V UL/CSA (RY-505 <D>)
RE501	9-0315-1	POWER TRANS EI 220V/230-240V ASIA (RY-507 <M>)

NOTE: <D> 120V model only
<M> Asian model only

MICROPROCESSOR CONNECTION DIAGRAM

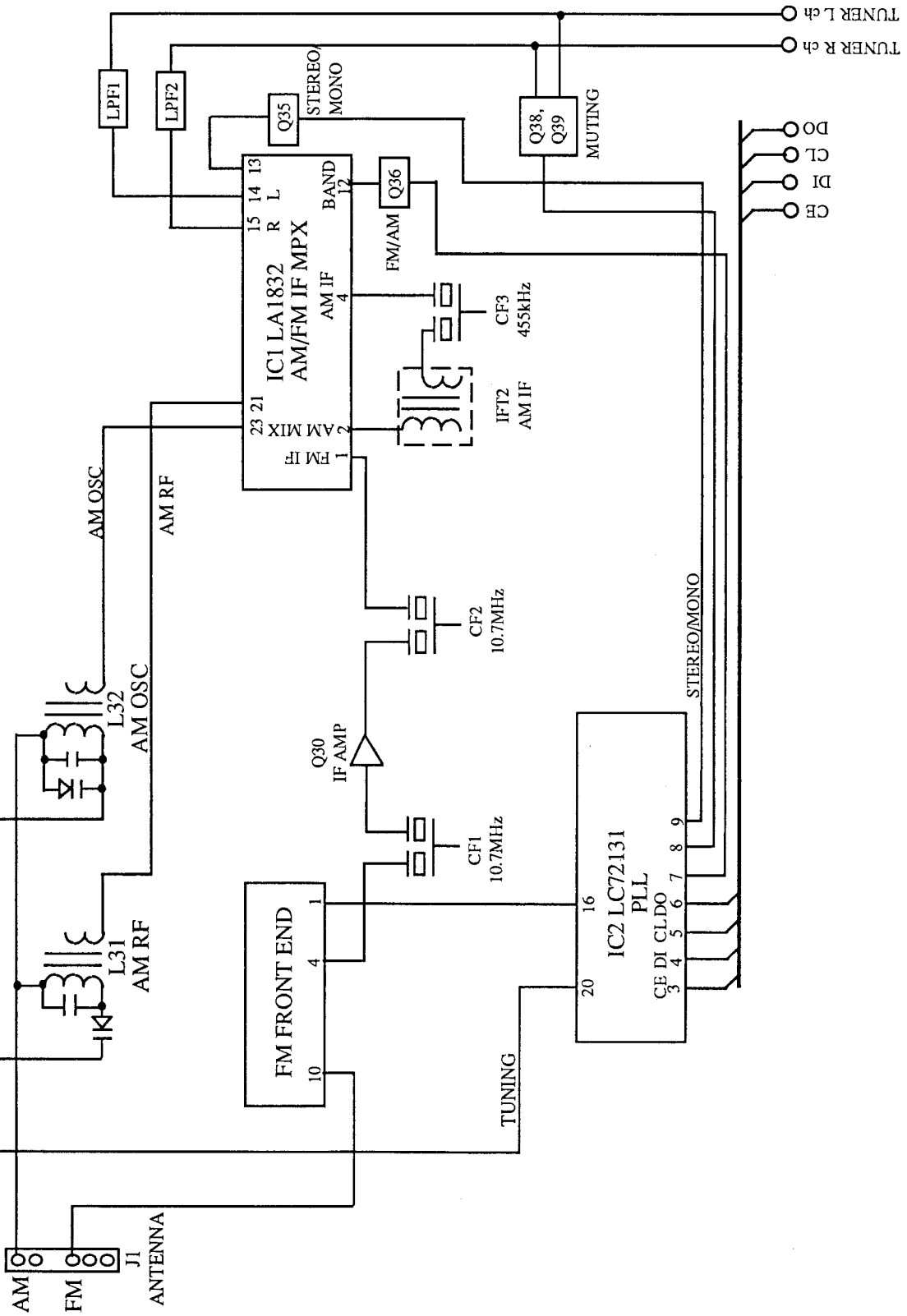


TERMINAL DESCRIPTION

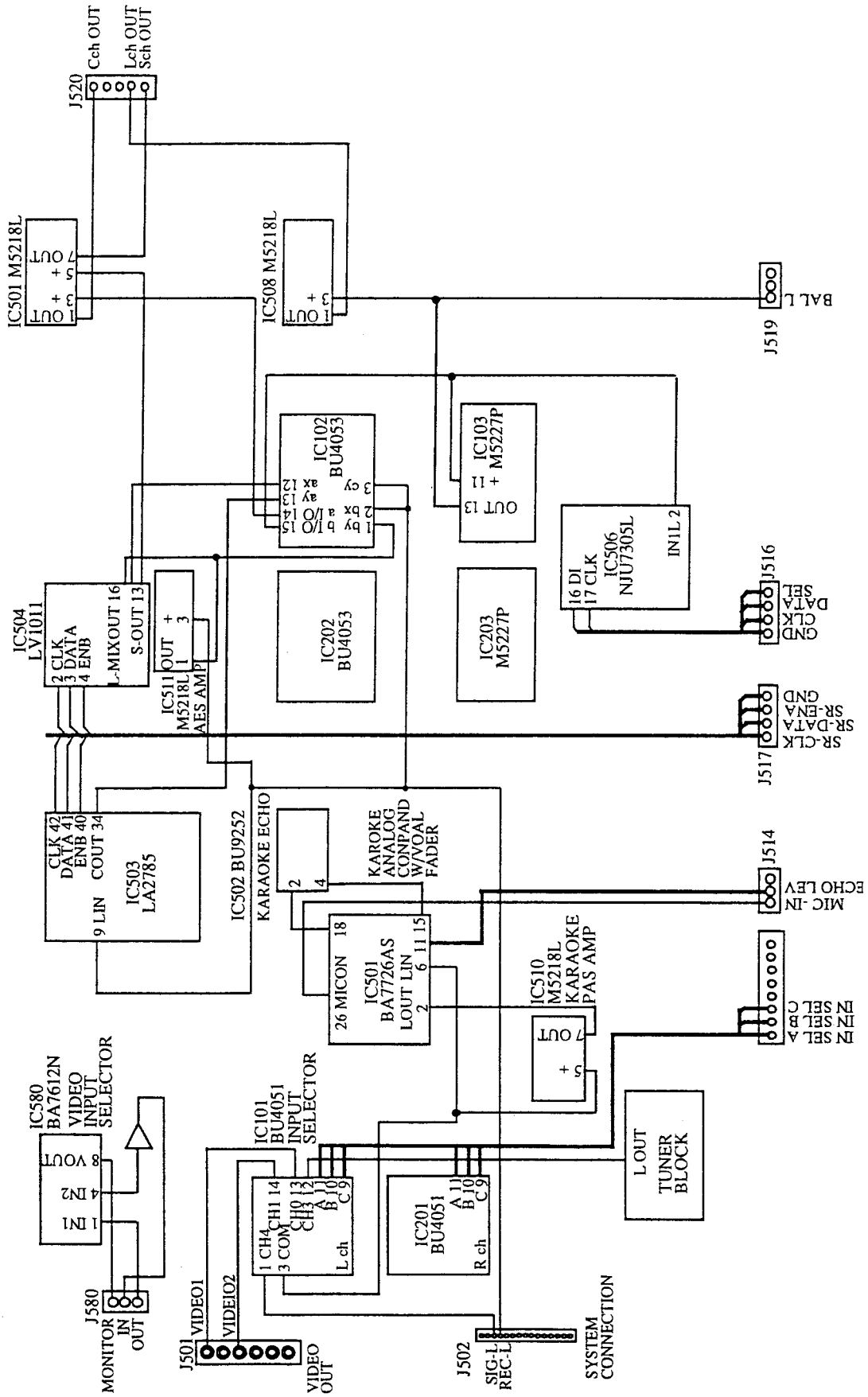
IC901 : CXP82840

Pin No.	Function	Port Name	I/O	Description	Pin No.	Function	Port Name	I/O	Description
1	G15	G1	O	FL tube grid output	51	STB1	PD5	O	
2	G16	G0	O	FL tube grid output	52	MPX-A	PD6	O	Level A sensor signal input selection
3	NC	NC	-	Not used	53	MPX-B	PD7	O	Level B sensor signal input selection
4	-	PE0	I	Not used	54	CLK2	PF0	O	Command clock output
5	MODEL1	PE1	I	Model judgement input	55	DATA2	PF1	O	Command data
6	MODEL2	PE2	I	Model judgement input	56	STB-A	PF2	O	Input IC selection
7	MODEL3	PE3	I	Model judgement input	57	STB-B	PF3	O	Output IC selection
8	RMC	MRC	I	Remote control input	58	-	PF4	O	Not used
9	AC-CHK	PE5	I	AC power supply	59	CLK3	PF5	O	Command clock output
10	-	PE6	O	Not used	60	DTA3	PF6	O	Command data
11	-	PE7	O	Not used	61	STB-C	PF7	O	IC selection
12	KEY0	KR0	I	Key matrix input terminal	62	LED1	PG0	O	LED Display matrix drive output
13	KEY1	KR1	I	Key matrix input terminal	63	LED2	PG1	O	LED Display matrix drive output
14	KEY2	KR2	I	Key matrix input terminal	64	LED3	PG2	O	LED Display matrix drive output
15	KEY3	KR3	I	Key matrix input terminal	65	LED4	PG3	O	LED Display matrix drive output
16	SR-CLK	PC4	O	Surround IC command clock	66	P-0N	PG4	O	Power control output (Power on='H')
17	SR-DATA	PC5	O	Surround IC command data	67	MUTE	PG5	O	Amp mute control output (Mute on='L')
18	RS-CE	PC6	O	Surround IC command selection	68	P1	A33	O	FL tube anode output
19	MS-REQ	PC7	O	Sub microprocessor from command request	69	P2	A32	O	FL tube anode output
20	SM-REQ	CINT	I	From microrocessor	70	P3	A31	O	FL tube anode output
21	SUB-RST	PB1	O	From micrpprocessor reset	71	P4	A30	O	FL tube anode output
22	MS-CLK	SCK0	O	Sub microprocessor command clock	72	P5	A29	O	FL tube anode output
23	SM-DATA	SI0	I	Sub micrpprocessor from data input	73	P6	A28	O	FL tube anode output
24	MS-DATA	SO0	O	Sub microprocessor data output	74	P7	A27	O	FL tube anode output
25	TU-CLK	PB5	O	Tuner command clock	75	P8	A26	O	FL tube anode output
26	TU-DOUT	PB6	O	Tuner from data input	76	P9	A25	O	FL tube anode output
27	TU-IN	PB7	I	Tuner data output	77	P10	A24	O	FL tube anode output
28	AVREF	AVREF	-	A/D standard voltage input	78	P11	A23	O	FL tube anode output
29	TU-CE	PA0	O	Tuner from command selection output	79	P12	A22	O	FL tube anode output
30		PA1	O	Tuner from command selection output	80	P13	A21	O	FL tube anode output
31		PA2	O	Tuner from command selection output	81	P14	A20	0	FL tube anode output
32	SD	PA3	I	Tuner receiving condition signal	82	P15	A19	0	FL tube anode output
33	ST-IND	PA4	I	Stereo indicator input	83	P16	A18	O	FL tube anode output
34	MIC-IN	PA5	I	Microphone connecting detecte input	84	P17	A17	O	FL tube anode output
35	A/D1	AN6	I		85	P18	A16	O	FL tube anode output
36	A/D2	AN7	I		86	G1	G15	O	FL tube grid output
37	AVss	AVss	-		87	G2	G14	O	FL tube grid output
38	RESET	RST	I		88	G3	G13	O	FL tube grid output
39	EXTAL	EXTAL	I		89	VDD	VDD	-	+5V Power supply
40	XTAL	XTAL	-		90	G4	G12	O	FLtube grid output
41	Vss	Vss	-	GND pin	91	G5	G11	O	FLtube grid output
42		TX	-		92	G6	G10	O	FLtube grid output
43		TEX	-		93	G7	G9	O	FLtube grid output
44	VDD	VDD	-	+5V power supply	94	G8	G8	O	FLtube grid output
45	VEDP	VEDP	-	FL drive voltage	95	G9	G7	O	FLtube grid output
46	BPFO	PD0	O	BPF select 0	96	G10	G6	O	FLtube grid output
47	BPF1	PD1	O	BPF select 1	97	G11	G5	O	FLtube grid output
48	BPF2	PD2	O	BPF select 2	98	G12	G4	O	FLtube grid output
49	CLK1	PD3	O	Command clock output	99	G13	G3	O	FLtube grid output
50	DATA1	PD4	O	Command data output	100	G14	G2	O	FLtube grid output

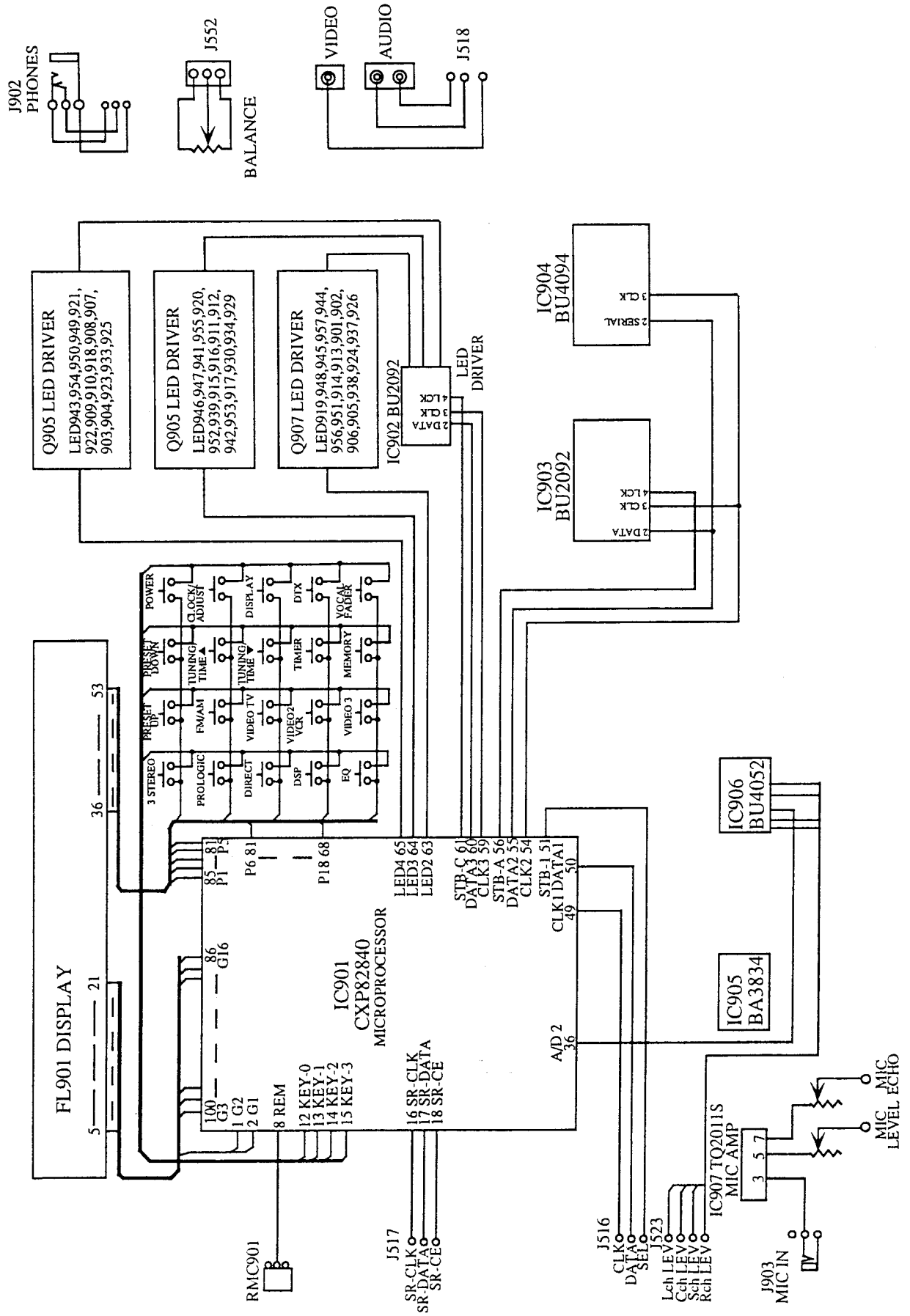
BLOCK DIAGRAMS (TUNER SECTION)



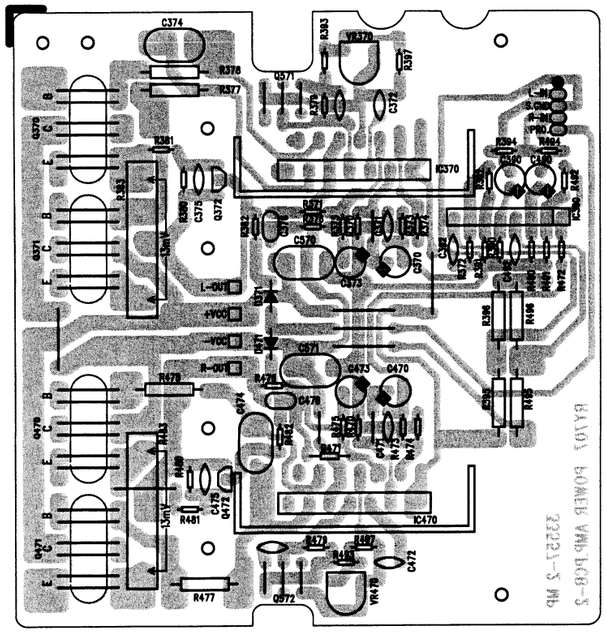
BLOCK DIAGRAMS (MAIN SECTION)



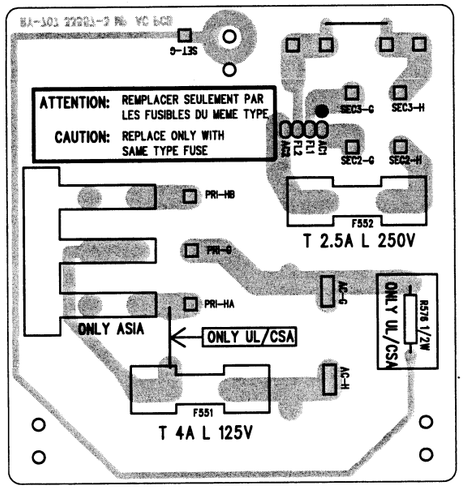
BLOCK DIAGRAMS (DISPLAY SECTION)



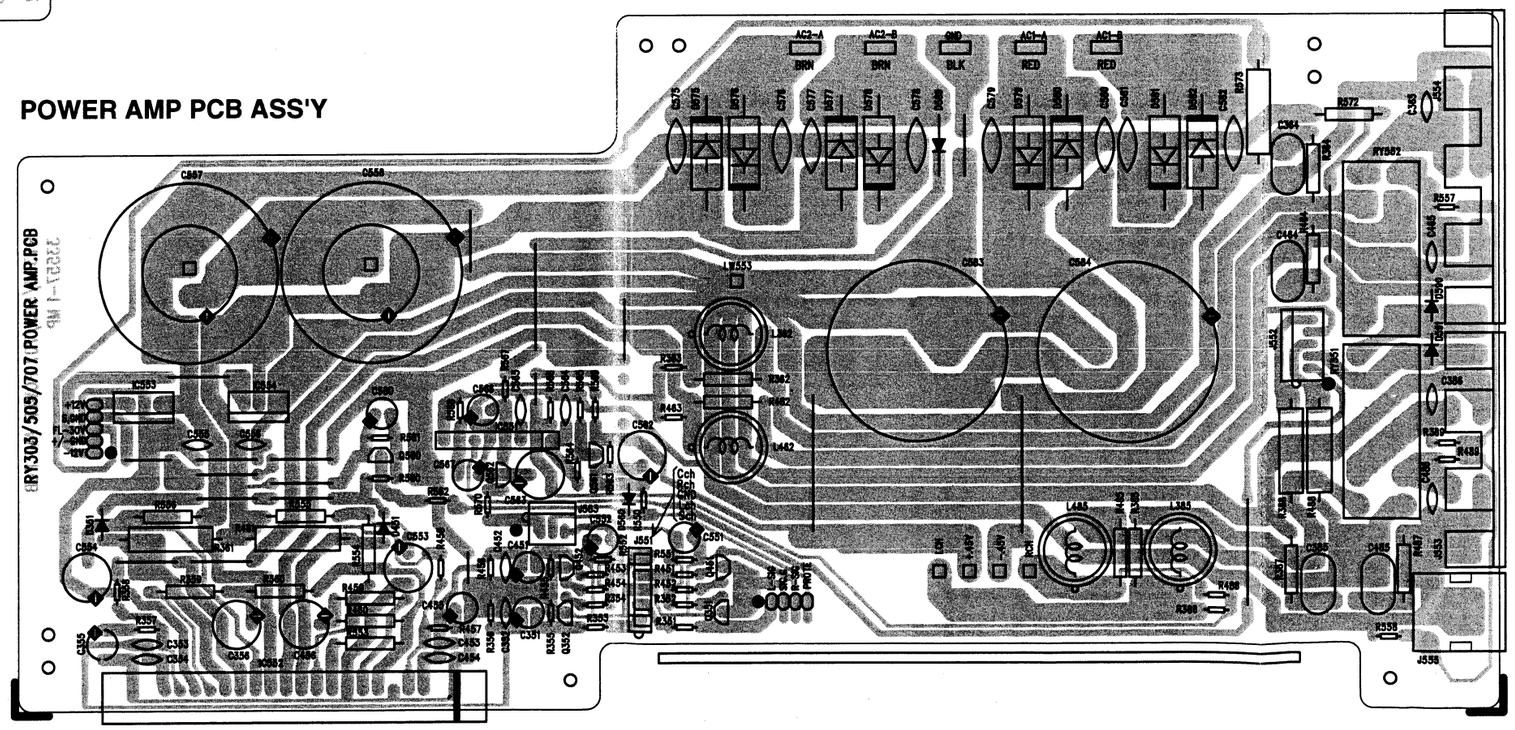
POWER AMP TRANSISTOR PCB ASS'Y



AC PCB ASS'Y



POWER AMP PCB ASS'Y

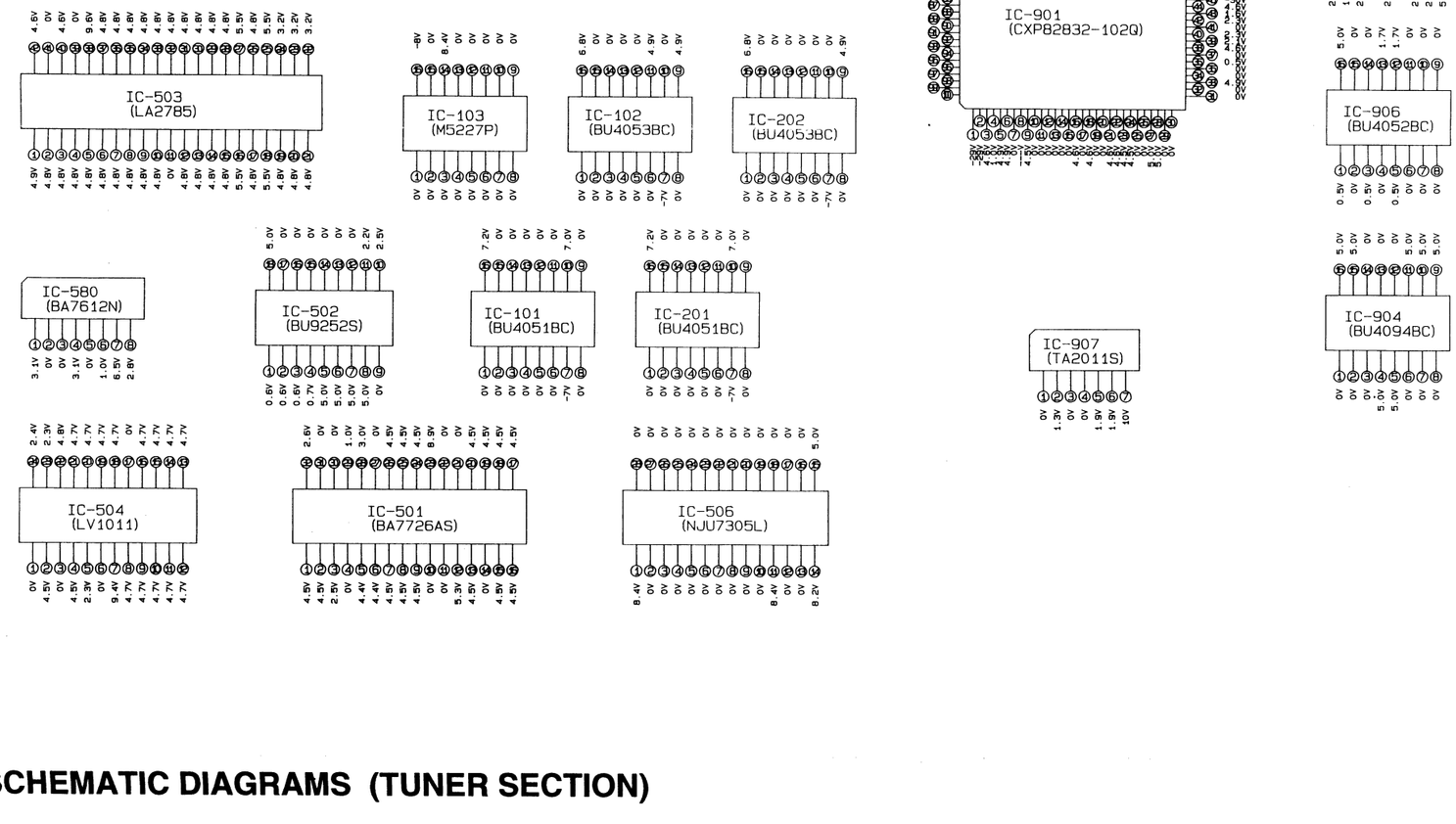


SCHEMATIC DIAGRAMS VOLTAGE CHARTS (ALL IN VOLT)

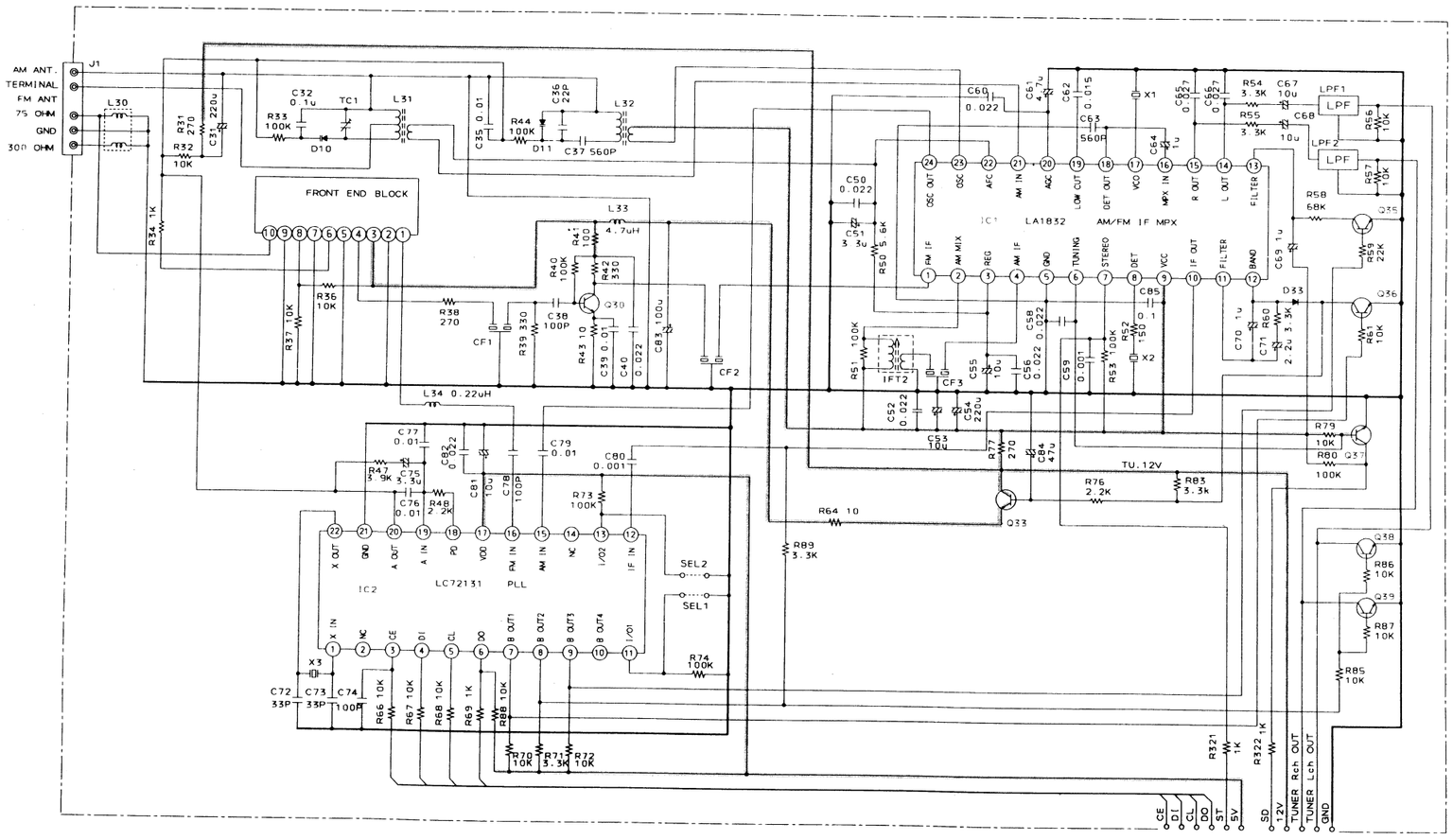
Q' NO.	Q303	Q35	Q36	Q37	Q319	Q320	Q370	Q370	Q371	Q371
MODE	FM/AM	FM/AM	FM/AM	FM/AM	FM	FM	FM	FM	FM	FM
E	10.0/0	0/0	0/0	0/0	-29.0	17.0	0.0	0.0	0.0	0.0
C	12.0/0	4.6/4.6	11.6/0	0/0	-40.0	18.0	-50.0	-40.0	50.0	40.0
B	10.6/0	0/0	0/0.7	0.7/0.7	-29.6	17.6	-0.6	-0.6	0.6	0.6
							(RY-303/505/707)	(RY-303/505)	(RY-303/505/707)	

Q' NO.	Q470	Q470	Q471	Q471	Q560	Q560	Q560	Q561	Q561	Q562
MODE	FM	FM	FM	FM	FM	FM	FM	FM	FM	FM
E	0.0	0.0	0.0	0.0	-31.0	-27.0	-31.0	49.0	40	1.8
C	-50.0	-40.0	50.0	40.0	49.0	40.0	49.0	0.0	0	0.0
B	-0.6	-0.6	0.6	0.6	-30.4	-27.0	-30.4	49.7	40	1.3
	(RY-303/505/707)	(RY-303/505)	(RY-303/505/707)	(RY-303/505)	(RY-303/505/707)	(RY-303/505)				

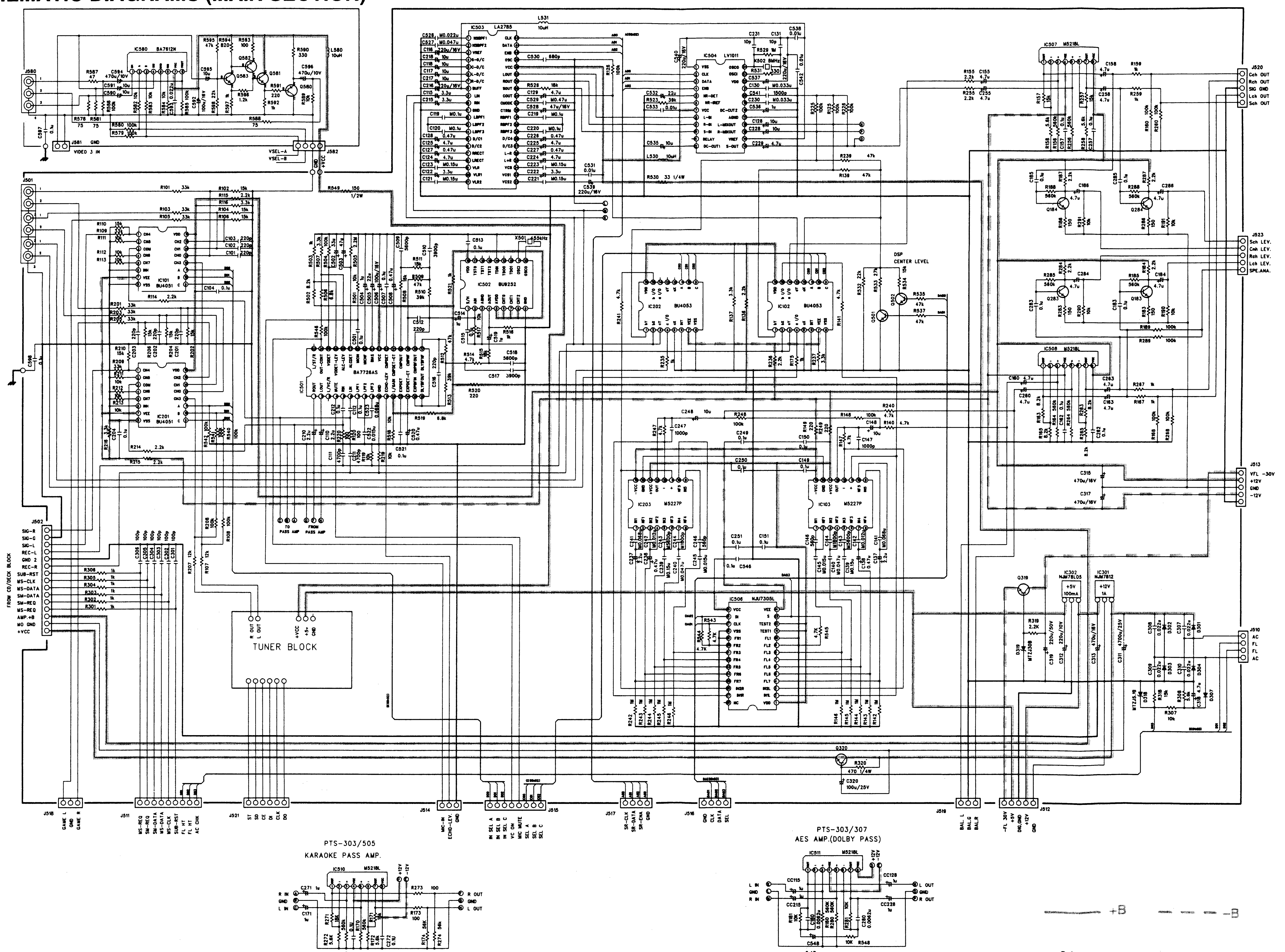
Q' NO.	Q571	Q572
MODE	FM	FM
E	-1.2	-1.2
C	0.6	0.6
B	-0.6	-0.6



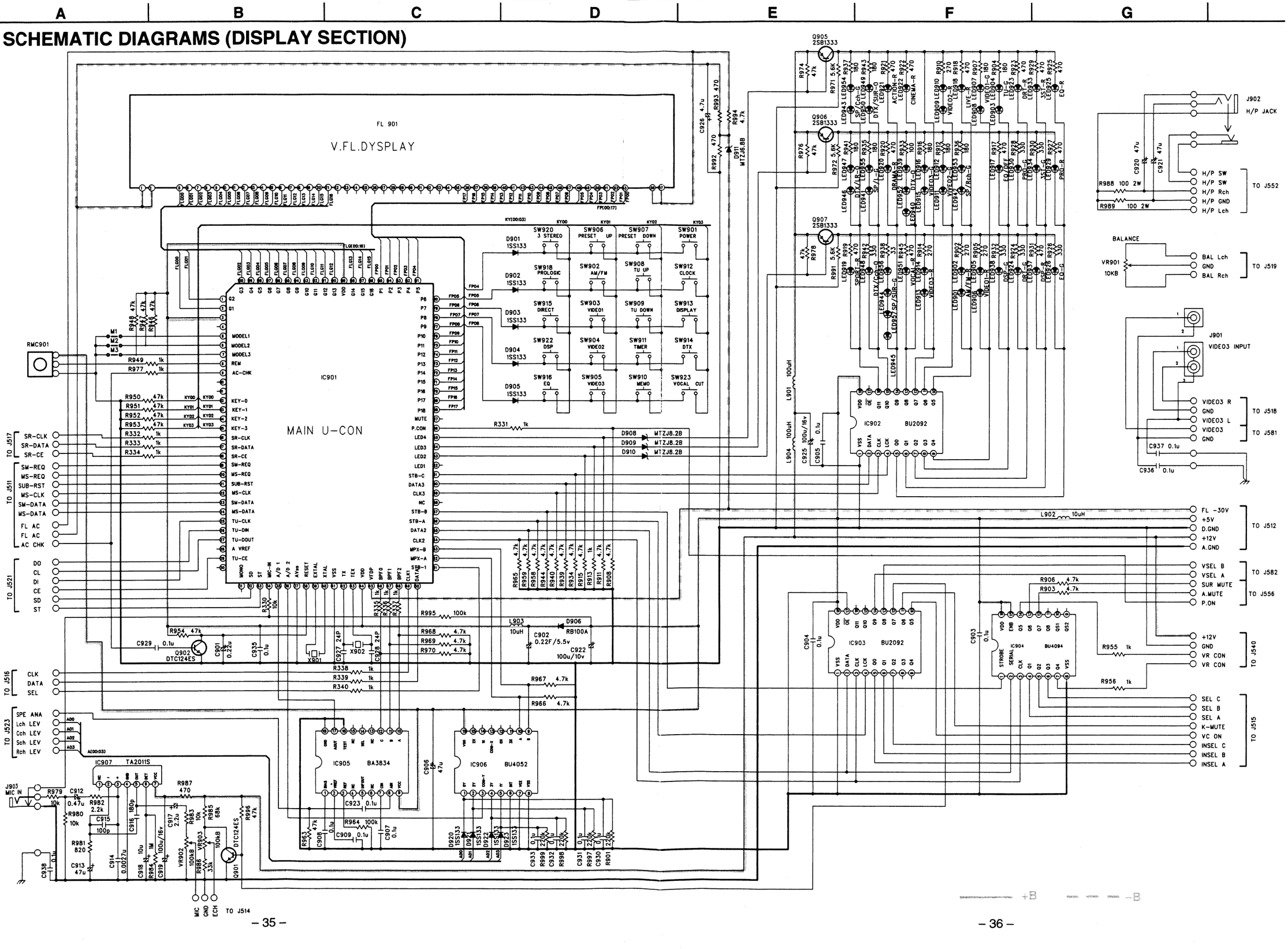
SCHEMATIC DIAGRAMS (TUNER SECTION)



SCHEMATIC DIAGRAMS (MAIN SECTION)

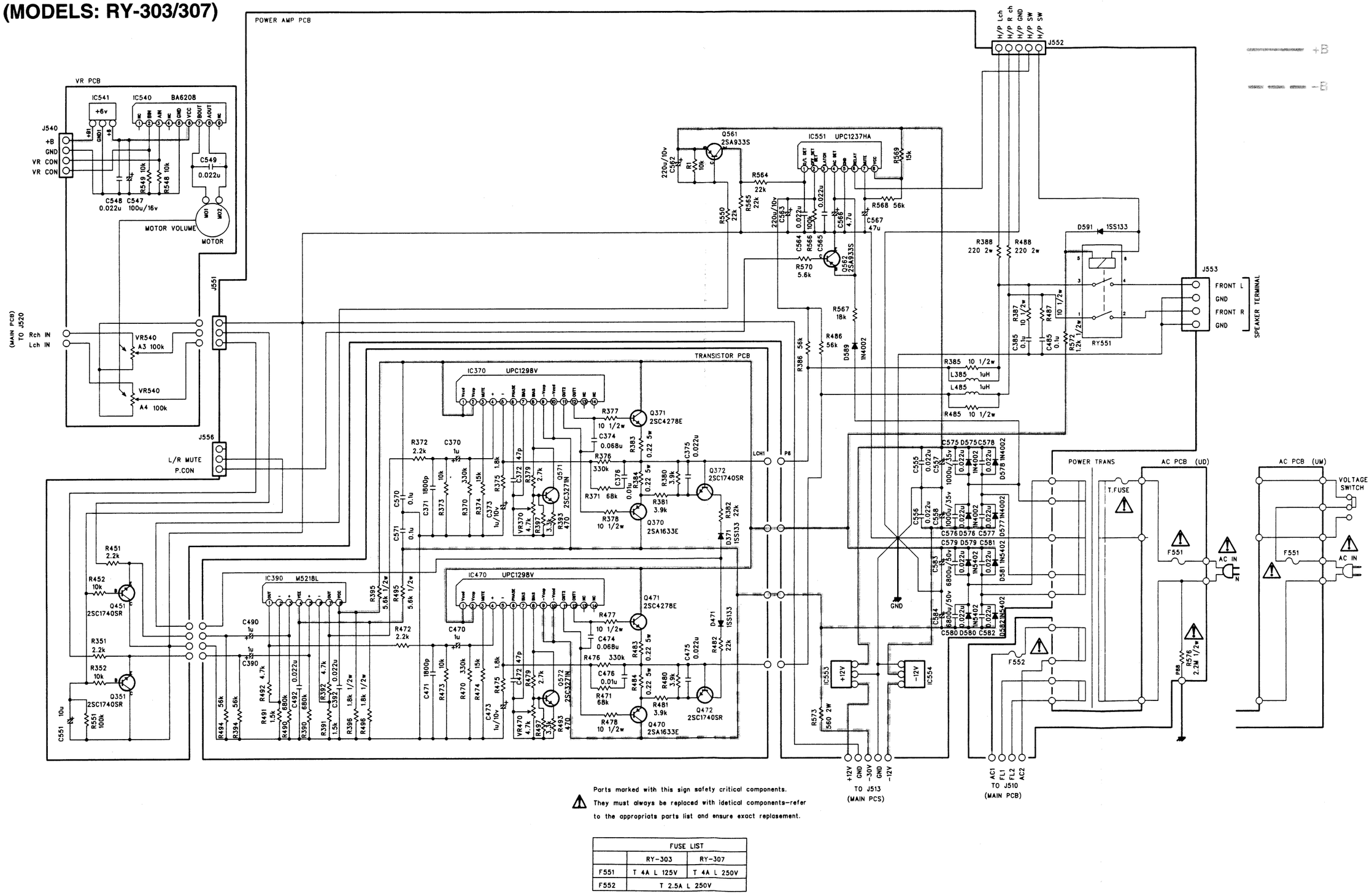

A B C D E F G
1 2 3 4 5
IC580 BA7612N
J580
J581 GND
VIDEO 3 IN
J582
VSEL-A
VSEL-B
GND
+VCC
IC503 LA2785
IC504 LV1011
X502 8MHz
L531 10uH
L530 10uH
R530 33 1/4W
R549 150 1/2W
J501
IC101 BU4051
IC201 BU4051
IC501 BA7726AS
IC502 BU9252
X501 455kHz
IC202 BU4053
IC102 BU4053
DSP
CENTER LEVEL
IC507 M5218L
IC508 M5218L
J520
Cch OUT
Rch OUT
SIG GND
Lch OUT
Sch OUT
J523
Sch LEV.
Cnh LEV.
Rch LEV.
Lch LEV.
SPE.ANA.
J513
VFL -30V
+12V
GND
-12V
IC203 M5227P
IC103 M5227P
IC506 NJU7305L
TO
PASS AMP
FROM
PASS AMP
J502
FROM CD/DECK BLOCK
SIG-R
SIG-C
SIG-L
REC-L
GND 2
REC-R
SUB-RST
MS-CLK
MS-DATA
SM-DATA
SM-REQ
MS-REQ
AMP.+B
MO GND
+VCC
TUNER BLOCK
R OUT
L OUT
+VCC
+5v
GND
Q319
IC302 NJM78L05
+5V 100mA
IC301 NJM7812
+12V 1A
J510
AC
FL
FL
AC
Q320
R320 470 1/4W
C320 100u/25V
J518
GAME L
GND
GAME R
J511
MS-REQ
SM-REQ
SM-DATA
MS-DATA
MS-CLK
SUB-RST
FL HT
FL HT
AC CHK
J521
ST
SD
CE
DI
CLK
DO
J514
MIC-IN
ECHO-LEV.
GND
J515
IN SEL A
IN SEL B
IN SEL C
VC ON
MIC MUTE
SEL A
SEL B
SEL C
J517
SR-CLK
SR-DATA
SR-ENA
GND
J516
GND
CLK
DATA
SEL
J519
BAL. L
BAL.G
BAL.R
J512
-FL 30V
+5V
DIG.GND
+12V
GND
PTS-303/505
KARAOKE PASS AMP.
IC510 M5218L
R IN
GND
L IN
R OUT
GND
L OUT
PTS-303/307
AES AMP.(DOLBY PASS)
IC511 M5218L
L IN
GND
R IN
L OUT
GND
R OUT
+B
-B

SCHEMATIC DIAGRAMS (DISPLAY SECTION)



SCHEMATIC DIAGRAMS (POWER AMP SECTION)

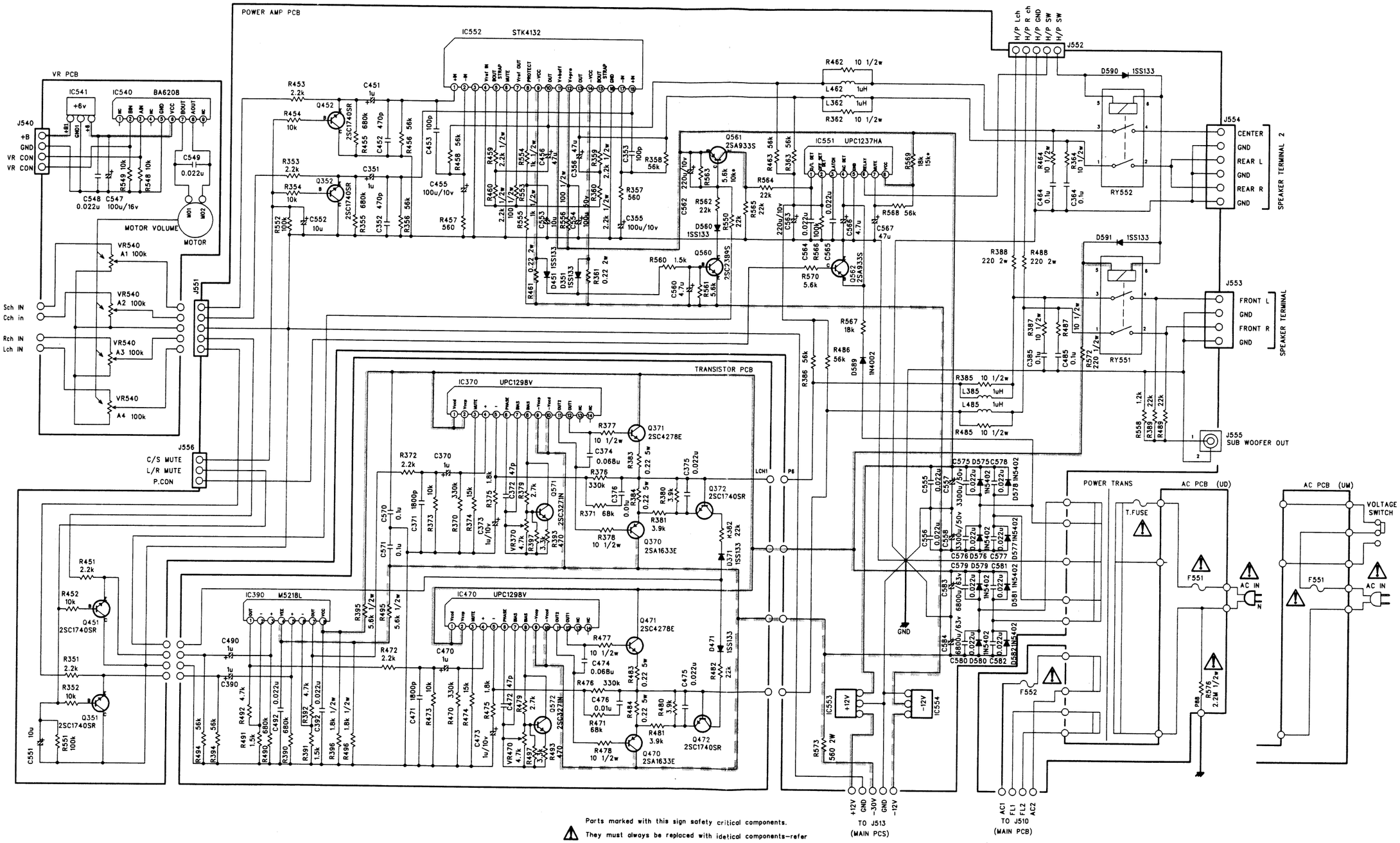
(MODELS: RY-303/307)



⚠ Parts marked with this sign safety critical components.
They must always be replaced with idetical components–refer to the appropriats parts list and ensure exact replasement.

FUSE LIST		
	RY-303	RY-307
F551	T 4A L 125V	T 4A L 250V
F552	T 2.5A L 250V	

SCHEMATIC DIAGRAMS (POWER AMP SECTION) (MODELS: RY-505/507/707)



⚠ Parts marked with this sign safety critical components.
They must always be replaced with idetical components—refer to the appropriats parts list and ensure exact replasement.

FUSE LIST				
	RY-505	RY-507	RY-707UD	RY-707UM
F551	T 4A L 125V	T 4A L 250V	T 5A L 125V	T 5A L 250V
F552	T 2.5A L 250V			